The Builder.

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ILLUSTRATION.

The Votive Church, Vienna.—Herrn H. Ferstal, Architect 664, 665

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Kensington House.

ANY of our readers must have noticed the gradual growth of a large stone mansion, consisting of centre and wings, in the Kensington High-road, and many more have heard rumours as to the sale of it by the well-known gentleman for whom it has been built, first to one distinguished personage and then another. Some reticence has been shown as to the communication of information, and nothing has yet been said as to the arrangement of the interior. A few particulars will, doubtless, be found interesting. Kensington House has been built from the designs and under the continuous personal superintendence of Mr. James Knowles, architect. The site comprises about 7¼ acres of freehold land, which four years ago was chiefly covered by one of the worst and most squalid neighbourhoods in London. The front opposite Kensington-gardens was occupied by Kensington House and Colby House. The high road at this point was narrowed almost to a lane, and has now been widened by setting back the front fence of the new Kensington House. On the opposite side (the park side) of the road stood a long dead wall, with a gardener's cottage, which wall is now replaced by an open iron railing, giving a fine view of the old palace.

It is worth noticing that so large a site was acquired and cleared without any sort or kind of compulsory powers, and at no extravagant cost,—considering the prices which have been given for land in this neighbourhood.

The house itself is probably (excepting the palaces) the largest private residence in town,—the ground-floor alone containing a suite of family rooms as well as of state rooms, which are usually distributed over the ground and first floors in houses of the highest class. The arrangement of the family suite, it is necessary to say, as well as of other parts of the house as it now stands, has been considerably altered since originally built as planned by the architect.

The leading idea of the plan is to make a central feature of a large conservatory, which lights the main hall and two drawing-rooms,—all of which are capable of being thrown together upon occasion into one grand reception-room of many compartments. From this, as its centre, the rest of the plan radiates.

On entering by the principal portico (fronting the high road), which is sustained on monoliths of pink granite in the form of coupled Ionic columns, the visitor finds himself at once on the general level of the ground floor, which is uninterrupted by a single step throughout. Passing through a vestibule having on either side waiting-rooms and conveniences, and beyond these two morning-rooms looking on to Kensington-gardens, he enters the great hall, upwards of 90 ft. long and 30 ft. wide. Immediately opposite is the conservatory, about 40 ft. square and 40 ft. high, opening from the hall by five wide and lofty casements, which together make a wall of glass, designed expressly to give an effect of brilliant colours from the groups of flowers, lighting up, as it were, the whole house from the first moment of entering it. Going forward into the conservatory, drawing-rooms, each about 50 ft. long, open from it on either side, while all three open on to the raised garden terrace, paved with marble, which extends along the entire south front of the house, and forms a link of connexion for the whole of the various rooms.

Returning to the main hall, it will be found divided into three compartments by two screens of coupled fluted Corinthian marble columns, of which each shaft is a single block. The central compartment opens on to the conservatory as already explained, and in the compartments right and left, behind the screens of columns, rise two staircases of solid Sicilian marble to the level of the second floor. The first landings of these staircases are carried upon marble caryatides, supporting a marble balustrade and gilded candelabra, and form a kind of porch-like approach to the rooms beyond. On the left hand these caryatides represent Spring and Summer, and flank the opening to the picture-gallery, and ball-room, in the eastern wings of the building. On the right hand they represent Autumn and Winter, and lead to the dining-rooms, billiard-room, library, and the other apartments of the western wings of the house.

A vista from east to west through the whole length of the house is formed between these caryatides and the column screens, or rather was formed, until an alteration of the dining-rooms blocked up this vista at the eastern end of it.

The pavement of the hall and staircases is of Roman mosaic in marble, and the walls are cased with a veined marble dado.

Passing from the hall to the east wing, under the landing carried by the eastern caryatides, the picture-gallery is next entered. It is 106 ft. long by 25 ft. wide, and at the two ends is lobbied off by screens of columns into rooms with side-lights for water-colours. These ends are fitted with fire-places, and treated as rooms, and should be divided by velvet curtains from the main picture-gallery.

The picture-gallery leads to the ball-room, 84 ft. long by 25 ft. wide and 30 ft. high, divided into three compartments by lofty arches carried upon marble monolithic columns. The centre compartment, opposite the entrance to the room, is enlarged by a tribune for the music. The picture-gallery is connected with the ball-room by three entrances, for use upon the occasion of great receptions.

Turning back to the hall, traversing its length, and passing between the western caryatides, on the right is the billiard-room, about 35 ft. by 25 ft.; on the left the library, 32 ft. by 25 ft.; and in front the two dining-rooms, each 42 ft. by 25 ft., and capable of being thrown together into one large room. These dining-rooms were originally built as three rooms, one in the centre having a large bow window facing the centre room at the end of the vista of the house, and two others of about 25 ft. by 25 ft., one on each side, all throwable together for large entertainments. The alteration is a considerable injury to the house as a place to live in, but the original plan would be easily restored.

The whole of the reception-rooms open on to the garden terrace before mentioned, which is about 223 ft. long by an average width of 30 ft., and has a central flight of steps opposite to the conservatory, 38 ft. wide, leading on to the tower, as well as two side flights of steps of lesser width.

The basement accommodation is arranged so as to have the offices lighted from the front and the two ends of the house, no lights whatever being placed on the south or garden front, which is occupied by the raised garden terrace.

The upper floors of the house are devoted almost entirely to bed and dressing rooms, most of which are provided with fixed hot and cold baths, so as to avoid the daily necessity of setting out pans and cans. The house contains in all about 100 apartments, of all kinds, or *pièces*, as the French call them.

It is built on a massive and thick slab of concrete, the ground having had to be taken out to a considerable depth over the whole surface, to get rid of the old drains and cesspools with which it was honeycombed, and every trace of which was rooted out, until nothing but clean and virgin soil remained to place the concrete upon. The materials used are brick in cement, and stone ashlar also in cement, the stone being Bath Box-ground Weather, with all upper members of strings, cornices, &c., in Portland stone. The whole of the ground-floor is divided from the basement by Dennett's fireproof arching, and the floors, where not marble, are either oak parquet or pitch-pine throughout the house.

The grounds have been entirely made up from a very low level (about the level of the existing garden-lake), until the effect of a natural slope of park-like land has been obtained, which falls towards the garden-lake, and is raised to a considerable height all round the boundaries of the property, so as the more effectually and rapidly to screen out, by planting, the circumjacent houses. To those who knew the neighbourhood originally the change effected here is wonderful.

From the terrace the Italian garden is first reached, having the orangery and the aviaries forming the chief part of the north side of it. Beyond this is a small open-air skating-rink, and following round the border of the ornamental water is a boat-house and a summer-house, and a winding walk to the stables. These front to Kensington-square, and contain accommodation for twenty-four horses and twelve carriages,

with kitchen and mess-room for grooms, grooms' dormitories, and second coachman's rooms on the first-floor, and head coachman's house looking on to Kensington-square. The stables are built of brick and stone, in the same manner as the house, with a wooden pavement in their two court-yards.

Returning from the stables, and passing along by the lake, one comes to what is intended to be a sub-tropical garden; and beyond that, by another winding walk through the shrubbery, to the American Bowling-alley, placed where the noise of the players would be least audible from the rest of the grounds. Beyond the sub-tropical garden are the plant-houses, lily-tank, forcing-pits, potting-sheds, gardener's bothie, and the poultry-house, with a green trellised run for the fowls.

The various contractors employed deserve to be mentioned.

The bulk of the work to the house itself has been done by Mr. Chappell, of Great George-street; the internal plumbing, by Mr. Hall, of Bulstrode-mews; the hot-water services and warming by Mr. Herring, of Chertsey; the pitch pine flooring by Messrs. Geo. Smith & Co.; the Roman mosaic of the hall, by Mr. Orr, of Baker-street; the marble staircases and columns, by Messrs. Walker, Emley, & Beall, Newcastle-on-Tyne; the marble paving of conservatory and vestibule, and the marble dado to the hall, by Mr. Burke, of Newman-street; the electric bells, by Mr. Sax, of Great Russell-street; the French plate-glass, throughout, by Mr. Willmore, of Kensington; the ironmongery and fittings, by Mr. Gibbons, of Wolverhampton; the marble caryatides, by Mr. Fontana, of Glebe-place, Chelsea; the wrought ironwork and the iron-work of the conservatory, by the Thames Ironworks Co.; the gas supply, by Messrs. Strode, of Osnaburgh-street; the stoves and chimney-pieces, by Messrs. Benham, of Wigmore-street, and by Messrs. Yates, Haywood, & Co., of Thames-street; the cast-iron crestings and balconnettes, by Messrs. Turner & Allen, of Thames-street; the iron scroll balustrades of the principal stairs, by Mr. Turner, of East-street; the revolving shutters in the basement, by Mr. Clarke; the carton pierre and other enrichments to the ceilings, by Mr. Boëkbinder, of Thornhill-road, Barnsbury Park; the pink granite shafts of the portico, by Mr Wright, of Aberdeen; the oak parquet floors, the walls of the dining-rooms, the picture-gallery, and the front entrance walnut screen, &c., by Messrs. Howard, of Berners-street; and the coloured decorations of the enrichments and ceilings, mentioned hereafter a little in detail, and the general painting and papering, by Mr. Sang, of Sackville-street.

The stables, the orangery, the garden terrace, the lodge, trellis, &c., were executed by Mr. Thorn, of Cremorne Wharf, Chelsea; the stable fittings, by Messrs. Barton, of Oxford-street; the bowling-alley, by Messrs. Nixon; the plant-houses and poultry-houses, &c., by Messrs. Weekes; the front iron fence, by the Cadogan Ironworks Co.; the boat-house and summer-house, by Mr. Fox; and the gardens and grounds, by Mr. John Gibson. Mr. Anton has been the architect's zealous and active clerk of works throughout.

Coloured Decorations.

To the right and left of the entrance-hall short corridors lead to two waiting-rooms, one attached to the proprietor's study, the other to the lady of the house's room. In the study, a room of about 25 ft. square, the woodwork (as doors, skirtings, and window-sashes), is brown, black, and gold; the walls a Pompeian red, with a Turquoise blue frieze below cornice, studded with ornament and golden stars. The ceiling is rich in modelled and gold ornaments.

The corresponding room, on the other side, has warm pale blue walls with enriched green and gold borders accompanied by gold mouldings, the ceiling in light Raffaellesques and white and straw coloured grounds, flowers, cameo heads as medallions, the cove with relieved white festoons on a blue ground.

The ceilings of the double staircase are painted in positive sky blue, brown spandrels surrounded by gold mouldings, festoons, Raffaellesques, and clusters of fruit, &c., on a dark blue ground. The side walls of hall and staircases are of a quiet sunny pale green. The ceilings of the two drawing-rooms, with their triple glass doors into the conservatory and their spacious bow-windows, have each oval centre panels, enriched cove, cornice, and mouldings, most of them gilt and variegated coloured grounds, and extensively embellished by figure subjects and Capricci. The panels of walls of the one drawing-room are amber satin, with gold frames and turquoise blue styles, while the opposite drawing-room has panels in turquoise blue satin, white and enriched framing, with borders of pale Naples yellow.

The treatment of the picture-gallery is quiet, and in its colouring and ornamentation kept in a tone to receive oil paintings. The woodwork is of dark walnut and ebony; the walls a dark green, similar to those of the Palazzo Pitti at Florence; the cornice is simple grey, white, and gold; the cove, again, is grey, white, chocolate, and gold.

The two dining-rooms,—one the summer and the other the winter dining-room,—on the west of the building, and approached by a spacious corridor from the central hall, are different in treatment from the other rooms, the walls being in panelled oak and walnut. Some large panels in the walls lined with morone cloth are intended for pictures. The ceilings are massively panelled, the beams and mouldings being treated similarly to those of the side walls, while the larger compartments of the ceilings are embellished with pictures representing fishing, shooting, the pressure of the grape, and so on.

The ceiling of the library, one of the most elaborate in the building, is embellished in various sombre and some very bright tints, with allegorical figures of the arts and sciences, while cameo heads on a gold ground, viz.—Chaucer, Bacon, Milton, and Shakspeare,—form the principal ornament of the central panel.

In the hall and concert room a large bow-window opposite the principal entrance forms a striking feature of the room as you enter. The dome of this latter has an orchestral group of juvenile Cupid musicians, and sylvan scenery in the background. The leading tints of this room are white, mother-of-pearl, and gold. The central ceiling, domed, is painted with a group of Apollo and the Muses,—panels, spandrels, and borders being framed in gold. The two ceilings at the ends of this room are similarly treated, though with other subjects and ornaments. The walls are panelled, having arabesques as pilasters of original design on a ground of mother-of-pearl, the centre of each containing portraits of the leading ladies of the English and French courts, from Charles II., Louis Quatorze, down to Marie Antoinette. For these, which are indifferent copies of indifferent pictures, we have no admiration. The three doors leading to this apartment from the picture gallery have on the panels small views by Mr. Joseph F. Sang, jun.,—two of Versailles, one of the Forum at Rome, one of Venice, and two of Richmond.

The colouring, as a whole, is overdone, but several of the rooms are very satisfactory.

AN AFTERNOON AT ROMSEY ABBEY.

THE Abbey Church of Romsey, though well known to fame, is hardly so much a shrine for architectural visitors as its remarkable and unusual features of interest would lead one to expect. For one thing, Romsey is not exactly on the way to anywhere. It stands on a branch line of railway, and it has not the prestige of a cathedral town, though possessing a church to which some of our cathedrals may yield, not only in interest but even in grandeur of internal effect. Our own route to the quiet little country town did not in this instance lie along the Bishopstoke and Salisbury Railway, but along some of the white chalky roads which lead northward from the skirts of the New Forest, and on which in full summer the sunlight flares in a way that makes the wide grass borders, that so often line the roads here, as pleasant to the eye as to the feet. Threading our way along some of these, diverging now over a patch of furze-covered common, now along a narrow bridle-road by way of a short cut, dipping into the hollow and crossing the stream past Wellow Mills (pleasant-sounding name on a hot day, reminding one of Chaucer's "colde welle streames"), we presently leave on the right the meadows and the square and squat white mansion of Broadlands, late the country-seat of the most practical of recent English statesmen, and enter the town by the bridge that spans the strong current of the Test, in whose brown water the long green weeds sway to and fro continually. Romsey ought to be well off for water, we think, as we go up the straggling street, for on our right there runs all down the street a deep, rapid brook, close to the front of the houses, artificially hemmed in and narrowed by retaining walls on either side,—a kind of miniature Thames Embankment scheme,—which reduces the channel to 3 ft. or 4 ft. Over this the front doors of the dwellings are reached by stone landings; or the water disappears for some yards in a tunnel, to fume out all the more rapidly when it emerges; or it splashes through a weir and slowly turns a wheel to assist some industrial purpose; everywhere a rapid, strong, and, to all appearance, clear current, looking a very healthy and refreshing companion by the road-side. Yet, unfortunately, it is whispered that this lively tributary of the Test does not conduce to the sanitary state of Romsey; that it is put to base uses by thoughtless inhabitants, and carries down with it a percentage of things that would be better disposed of otherwise. This may be libel; the sense neither of sight nor smell discovers such an abuse. But if there be any foundation for the charge, it is a matter that cannot be too soon or too strictly looked into. Better turn the stream out of the town at once than make it a disseminator of impurities. A running stream is a delightful neighbour in itself, but then, like Cæsar's wife, it must be above suspicion.

As to Romsey itself, it is not a picturesque town; nor is there anything besides the church to attract the eye of the architectural visitor, if we except the new Boys' School, near the station; a brick Gothic building, showing much refinement of detail and true architectural feeling. In the centre square or "place," an irregular open space, stands the bronze statue of Lord Palmerston, and also the White Horse Inn, not without solid attractions, other than architectural, for the traveller. But we will suppose the hospitalities of the White Horse achieved, and hasten to the church which immediately adjoins the square.

The Benedictine Abbey of Romsey, like most of the establishments of the order, stood on rising ground, the church being at nearly the highest point of the town; the ground to the west falls away gently to the bank of the Test, and the expanse of flat meadow land beyond. Nothing remains of the establishment except the conventual church; nothing, at least, outwardly visible or conspicuous; and the external appearance of this does not convey much idea of the real interest of the structure. We see a plain, heavy, Norman building, with an Early English west end, Geometrical windows inserted at the east end, and later Gothic insertions on the north side; a broad, heavy, square, centre tower, rising very little above the roofs; we notice that the grey thin-jointed masonry is in admirable preservation, and that modern parapet walls have been added to the nave and aisle roofs, in place of the eaves-gutter, which no doubt existed formerly. Entering through a door by the north transept, we pass through what is in fact an apsidal chapel attached to the east wall of the transept, though now separated from the latter, and through a corresponding doorway in the north choir aisle, and find ourselves in an interior certainly unique in this country, and which is in some points one of the most remarkable and perhaps one of the most puzzling monuments of Early Gothic architecture that could be seen anywhere.

At first sight, we seem to be in an almost pure Norman church, of considerable scale, and of the massive proportions and severe simple detail proper to the style. But as we look round we become conscious of remarkable peculiarities, some of which have before this, of course, been adequately described, though others have not; but some comprehensive notes of the aspect of the whole and the relation of its parts may not be without interest. The first thing we notice is the unusual aspect of the square east end,—the aisle carried round behind the present position of the altar; the east side of the choir divided into two bays with a pier in the centre, and arches ranging with the main arcade opening into the east aisle; and opposite these two similar deeply recessed arches filled with fine windows of Early Geometrical date. A lady chapel has been either built or intended beyond this point; the foundations of it have, in fact, we were assured, been discovered during the investigations accompanying the restoration of the choir; but no evidence on this point has been left visible by those who may have made the investigation. Let us look at the outside of the present east wall. What we see there is curious enough, but the tale does not seem difficult to read. We have, first, the exterior of the geometrical traceried windows. Above them are seen, built up in the masonry, two larger circular arches, of the Norman period; not, however, central with the pointed windows, their centres being

somewhat closer. Outside these, again, are two pointed wall-arches, or wall ribs, again out of centre with both the other arches beneath them, having their centres wider apart than either. These wall-arches spring from a wall shaft in the centre, and from similar shafts in the angle formed by a buttress, of apparently the same date, at each side. The round arches preserved in the wall seem to infer the existence of an opening through to a building further east, in the Norman period; they are too large for windows, and appear, as far as the eye can judge, to coincide with the interior arches of the east aisle. This building has been removed, with the intention of building a new lady chapel in the Early English or Early Geometric period. The larger wall arches are the wall ribs of the intended vault of this chapel; and over each shaft from which they spring, both in the centre and in the angles formed by the buttresses, may be observed the breaking up of the face of the masonry where the springing stones of the vaulting-ribs have been, but which have either been broken down or worn away. But between the removal of the Norman Chapel and the fair commencement of the new one, something occurred to stop the progress of the latter, and it then became necessary to fill up the east arches and make windows of them, by partly building up the round arches and in them placing the windows with Geometric tracery which are now seen. That these windows are quite apart from the scheme to which the pointed vaulting-ribs belong, is evident from the fact of their centres not coinciding. The buttresses would seem to have been built, or a portion of the wall of the new building, just commenced, finished as a buttress at each side, to give some sort of completion to this portion when the carrying out of the chapel was abandoned. So we read the story of this eastern end. It seems impossible to suppose that the Early English lady chapel was built, and subsequently removed, with no attempt to put anything in its place; nor is it easy to account for the geometrical windows, except on the supposition that the work was interrupted or abandoned, and the east end had to be closed up as they best could. As it now stands, the plan of the east end has some resemblance to those plans of square-ended buildings in England and Germany, with eastern aisle and chapels, given in Mr. Sharpe's last number of his work on Cistercian Architecture, which we noticed the other day (p. 628, *ante*). The resemblance, however, is apparent or accidental, rather than real, owing to the now incomplete state of the plan; but it is suggested the rather by the apsidal chapels opposite the eastern extremities of the choir-aisles, in which the apse form appears internally only, being formed almost in the thickness of the wall, while the east wall externally is in one plane right across.

Turning to the interior of the chancel again, we notice that lofty Early Geometrical windows have also been inserted in the main wall, over the lady-chapel roof that was to be. The main arcade has the usual characteristics of Late Norman architecture in its bases, the plan of the pier, the zigzag archivolt decoration. The capitals are mostly also pure Norman, only interspersed here and there with a carved capital,—in one or two instances of considerable elaboration, showing the impending new spirit of the Transitional period; and some of the capitals in the east aisle show a double row of "scallop" ornament of a V section, quite different from the big round rolls of the pure Norman capital which occur in the same part of the structure and in the same arcade as these more advanced specimens, making it almost impossible to say whether the advanced or the conservative spirit predominates. The former appears again in the hood-mould ornament to the main arcade, a series of sunk circles, containing each a little diamond-shaped panel with convex sides, and each two of which are separated by a little extra spacing from the next two, instead of being continuous. It is in the triforium and clearstory, however, that we first come upon the more remarkable peculiarities of the building. Each triforium arch has a couple of sub-arches on a centre shaft, standing quite free, and with an open spandrel; and from the junction of the two sub-arches over their shaft rises a second little shaft to the soffit of the main triforium arch, as if to carry the keystone of the latter. A more extraordinary ornament, and one more contradictory of all our ordinary notions as to the principles and practice of arcuated building, could hardly be conceived. Then we carry the eye further up to the clearstory, and another surprise awaits us. Here there are three-light windows with angle shafts, the centre light greatly stilted; but on the shafts of this light stand, on either side, two small shafts rising to the springing of this stilted arch, and which, if we wanted a name for them, we might call "stilting-shafts." There is something so unlike the spirit of English architecture in the look of these two shafts standing on the capital of the lower one, and so strongly reminding us of French Romanesque, that one is tempted to think that some special connexion with France, either on the part of the masons who worked, or the abbot who ordered the work, must have existed to draw closer than usual in this instance the connexion of Anglo-Norman architecture with the land of its origin. Something special of Continental influence we seem to see, too, in the broad flat rib which divides the bays of the aisle vaulting throughout the whole of the earlier work, except in one instance.

Coming west to the crossing and transepts, we find no less to command our interest. The great crossing arches are simpler in treatment than almost any others in the building, being merely three square recessed soffits, with neither moulding nor chamfer of any kind; above them runs a low massively-treated arcade round the four walls, and immediately below the ringing-loft floor. The effect of the crossing, with its massive piers at the angles, is very grand; and perhaps the effect of the angle piers is enhanced by the fact that the inner members of the east and west arches are stopped at the level of the triforium string, leaving a mass of plain walling beneath. The double arrangement which we notice at the east end is again carried out in the north and south transept walls, which are vertically divided into two by great roof-shafts running their full height; shafts which could not, as far as one can see, have had any proper architectural function at all in reference to the roof. They are now abruptly stopped, the one by a small window cut in the gable of the north transept, the other by the low-pitched post-Gothic roof, which has been placed over the south transept. Roof-shafts cut off square at the ceiling level, and having no real constructive function, are, of course, common enough at the side of a building; but these rise under the ridge, and not under the bearing or springing of the roof. It would almost seem as if the Norman builders, in this and one or two other instances, carried the "order" of the side arcade round the end wall, vaulting-shaft, and all, from mere thoughtlessness or a notion of symmetry, without considering the suitability of the treatment to the position. The builders who added the Geometrical windows in the main east wall have repeated the same idea, and a vaulting-shaft of that period has been hung on to the wall, on a corbel, between the windows, for no earthly purpose that one can conjecture. The anomalous character of the building is again forcibly illustrated by the extraordinary triforium arch in the south transept, over the return of the nave aisle, where the two sub-arches are carried by a thick stumpy column, rather than shaft, unlike anything else in the building in this position, and which carries on its face, above the level of its proper capital, a clumsy projecting bracket to take the outer member of the sub-arches. If any ancient building could be picked out to justify the "inspired workman" theory, this corner of Romsey Abbey would be the one, for it literally seems to be the result of different men working independently of each other, and each man doing what was right in his own eyes. This confusion of purpose is still more marked when we advance to the adjoining bay of the nave aisle. We will pause one moment to remark the small wall arcade in the west wall of this transept, where some of the capitals are of most unusual design, one form being finished under the abacus by a series of small inverted interlacing arches, which have their springing downwards from the under side of the abacus; and the heavily-moulded arches of this arcade are pointed, though they are moulded in quite an early transitional style, and are arches of decoration only, such as in transitional work of this class are usually circular; but in Romsey nothing goes by rule, and here we see decorative pointed arches along with constructional circular arches, reversing the usual arrangement. This wall-arcading, we may observe, is much hidden and obscured by the staircase to the hideous gallery, which still deforms both transepts.

But now turn round into the south aisle of the nave, where the plot thickens still more. It is impossible to tell what the builders have been driving at here, or what special genius of eccentricity could have presided over this portion. The heavy transverse rib of the vaulting, which, over all the rest of the transitional church, is square in section, has, at the end of the first bay, a heavy roll moulding. This bay, it may be noticed, contains the only doorway belonging to the Norman church; in the rest doorways of Late Gothic period have been inserted. In the second bay of the aisle is a wall arcade of interesting round arches of most singular character, the caps and bases of the arcade appearing in profile only, and the arch-mould formed by making a square sinking in the face of the archivolt first, and then digging a moulding out; the whole thing being like an arcade of the usual detail squeezed flat, or with all the projections cut off. The second transverse arch springs from a respond considerably east of the corresponding pier of the nave, so that the arch is skew. The responds of both these two bays are formed of three shafts, the centre the larger, of which the two side ones have the square capitals turned diagonally to meet the line of the diagonal vaulting ribs which spring from them; an arrangement which obtains nowhere else in the church: in the rest of the responds of north and south aisles (as far as the Transitional church extends) the diagonals spring from small angle shafts rising from a string-course running under the windows between the responds. The whole of this piece, the first two bays of the south aisle, seems as if it were a portion of the structure commenced on a completely different plan from the rest. This would, of course, be quite comprehensible if the dates were manifestly different, but the whole of the adjoining portions are, to all appearance, so completely of similar date, and so intimately connected constructively with this abnormal corner, that they would seem almost to have been carried on simultaneously; and it is this which makes this corner such a piece of puzzle-work.

But it is time to look at the general design of the nave, which presents other points sufficiently remarkable. The nave contains seven bays, of which the first four (counting from the crossing westward, the direction in which the work evidently proceeded) are Transitional Norman, the last three of later date. Uncertainty and change of plan are again plainly evident here, together with a remarkable grandeur of style and conception, as if the church had been laid hold of at this point by an original genius with a great idea in his mind. What gives the peculiar dignity to this part of the edifice is the unusual treatment of the arcade, which is carried up through the triforium string, the outer members of the triforium arch over-sailing those of the ground-story arcade, which thus becomes, in fact, a secondary order or sub-arch beneath the great arch which springs on a level with the triforium impost, and the supports of which run through two stories. The first conception of the method of carrying this out is seen in the first piers on each side west of the crossing. These are plain cylindrical piers carried up through the ground-story arcade, and with their caps at the triforium impost line; but as the ground-story arcade must have something to spring from, there is a subsidiary capital formed at its impost level; only, as the pier of course projects beyond the plane of the ground-story arch, which is a sub-arch, the lower cap does not form a ring round the column, but is broken off short at the line of impact of the outer member of the ground-story arch, on the side next the centre aisle. On the other side the cap goes round, in one pier, to take the transverse rib of the aisle vault; but even in this point there was a difference of opinion, and the circular column on the south side has a special arrangement of shafts tacked on to it to receive the transverse rib of the aisle vault. Apart from this, however, it seems to have been felt that the circular column met the case in a very clumsy manner, though it was evidently deliberately adopted with the view of producing a fine effect. However, it evidently would not "work," and in pier No. 2 we are back to the compound pier again, the same form of which is repeated up to the end of the fourth bay. An advantage of the compound pier, besides adjusting itself to the two sets of arches above and below, is that we get a separate roof-shaft from the ground, whereas with the circular column there is only a short roof-shaft springing from a corbel above the triforium. It is noticeable that the arch immediately west of

the circular column, and those which follow it, are much wider than the first bay. This sudden change in the design perhaps accounts for the discrepancy between the second pier and its respond on the south side, and the skew arch in the aisle, as it may have been determined on after that part of the aisle wall was built. In the triforium the same design is preserved as in the choir; the two sub-arches and the little shaft rising to the soffit of the main arch; but the treatment of the sub-arches here varies oddly. In the first bay they have a zig-zag ornament, as in the choir; in the second bay they form a mere bar, square in section; in the third bay an almost classic cornice is turned over them, a quarter roll and an ovolo of considerable projection; in the fourth bay the sub-arches have more distinctly Transitional Gothic mouldings, the spandrel over them is filled up solid, and the little shaft before-mentioned accordingly disappears. The clearstory we will have a word about just now. But before quitting this portion of the church we will just notice that the fourth bay of the ground-story on the north side suddenly varies from the others in having a zig-zag ornament on the main arch, betraying, however, the progress of the style, in that the ornament in question zig-zags horizontally and not vertically; and there is a late form of zig-zag embroidering the diagonals of the aisle vault of this compartment. This decorated compartment was not improbably the baptistery of the original church. What is most remarkable about it architecturally is the carved capital of the fourth pier on this side, which presents a mixture of reminiscence of the Classic capital with prophecy of the Gothic in a manner seldom found combined in one and the same detail.

At this point we come upon the end of the Norman Transitional church, and reach the portion added in very nearly the full Early English period. But we have not done with anomalies. The west end, with its fine triple lancet, is pure Early English; so also are the caps and arch mouldings of the ground-story; and so still more emphatically is the triforium, with its richly-moulded trefoil-headed sub-arches which have replaced the plain round ones of the other bays. But below and above this Early English work we find distinctly Transitional details. The mouldings of the bases approach very nearly to Early English in character, but are not quite; in fact, they mostly resemble in profile a base mould, which subsequently became common in the Decorated period, and of which the present base, a kind of corruption of the Classic base, might seem to be the forerunner. But the angles of the bases are occupied by ornamental foliage carving, which in style and feeling is distinctly Transitional, and is here seen in remarkably fine form, the leaves in many cases rising in a bold relief unusual in this ornamental feature, which is more commonly kept rather flat. These angle carvings of the bases clash most curiously with the style of the upper part of the arcade and the triforium, and suggest the idea that the progress of this new portion of the building must have been very slow. But a still more odd and incongruous effect is produced when we run the eye up to the clearstory, and find there, above the pure Early English triforium, arch-moulds and caps of a thoroughly Transitional character. This would be inexplicable but for the fact, which at first sight seems perhaps only a farther complexity, that the same detail is continued along the whole of the clearstory, above the Norman Transitional portion, with which it has as little affinity as with the Early English substructure in the west bays, forming, in point of style, in fact, a kind of connecting link between the two. But this fact of the continuation of the clearstory on the same design (except one feature) all the way along, tells the tale at once. There was a distinct interval between the completion of the Transitional Norman triforium and the commencement of the clearstory, during which the Pointed arch had been thoroughly adopted, and accordingly appears in the clearstory with that degree of richness and breaking up of the mouldings which verges towards the Early English treatment, though still retaining the predominant squareness of outline of the Transitional arch-mould. The caps present that mingling of free foliated carving with a flat leafy-looking ornament which is the last remnant of the Norman "scallop," which occurs in such features as the arcade inside the west wall of Peterborough (which might be exactly contemporaneous with this triforium); the abacus is square. When, not long after this was completed, the lengthening of the church was carried out, the builders were seized with the unwonted idea, for Mediæval builders, of preserving a uniformity between the old and new portions of the clearstory, the first part of which is of admirable workmanship, and was probably a good deal admired in the district. So they continued the design of the Late Transitional clearstory over the Early English triforium, with one little alteration; they changed the abacus of the shafts from square to round. The square abacus was now utterly doomed and condemned as an awkward thing; but the rest of the Transitional details they followed for the sake of uniformity. That seems to be the history of it, and a curious little bit of history it is. Among other peculiarities illustrating the uncertainty of purpose which is so prevalent throughout Romsey, we may notice that while on the south side the double billet ornament of the triforium string stops dead against the outer member of the fourth pier, on the north side it is carried round this part of the pier, and a foot or two on the other side (a little job which must have been done by an "Early English" mason), and then stopped abruptly by a little knop of Early English foliage placed to intercept and form a finish to it. One can fancy the master-mind of the works coming round some morning, and finding John of Somewhere-or-other continuing the billet ornament, and telling him not to go on with that old-fashioned concern; and then John considering how he could make a neat finish of it, and cutting out this little knop of foliage in the latest style to do the trick. Among other little points it may be noted, too, that while the roof shafts of the earlier portion are stopped off short, those of the Early English portion have a moulding round them which shows just below the present nave-roof.

This said roof is not a satisfactory feature. The interior has had two restorers, the nave and crossing having been in the hands of Mr. Ferrey, and the choir, coming under different ownership or responsibility, in those of Mr. Christian. Both restorations seem in the main to have been eminently conservative, and to have consisted mainly in cleaning the stonework and repairing it where necessary, which apparently was not very much. But the restoring architect of the nave has placed upon it a high-pitched roof with a wooden ceiling forming a barrel-vault in cants, ribbed and panelled, and coloured a sort of dark slaty tone, with gilding at the intersection of the ribs. The colour effect (if it can be called colour) is disagreeable and heavy, and the design very weak-looking in comparison with the massive character of the principal portion of the edifice. Mr. Christian has put a solid-looking open-timber roof, also preserving something of the general section of a barrel-vault, over the choir roof, with better effect. The north aisle has a new roof designed, we were told, by the present vicar, with tolerably heavy curved principals slightly decorated in colour, and with good effect. The south transept, as mentioned, has a flat-pitched roof of modern style, though old enough and somewhat gone now. The other woodwork of the church needs renewal in a better style. The seating is very ugly and flimsy; the old pew style, in fact. The two galleries are anything but ornaments to the interior, and the organ, by Walker, which stands in one of them, will be none the worse for a new case. Mr. Butterfield, we believe, has made designs for the reseating, which is at present in abeyance. It is understood also that the same gentleman is desirous to "treat" the interior in colour in the same style as that in which he has treated St. Cross at Winchester. We should be sorry to oppose any scheme of Mr. Butterfield's, but we must express an earnest hope that no such performance as that at St. Cross will be permitted at Romsey.

Looking round the outside, though there is nothing of the interest which the interior presents, we cannot but be struck with the noble simplicity of the design of the west front, with its two great buttresses and its triplet of tall and large windows, without a suspicion of "ornament" anywhere, or anything to mar the unity of character of the whole. We may also note the fine work of the clearstory, and that it presents exactly the same characteristics we noticed in the interior. The present vicar has restored a portion of the north aisle, re-roofing it with an eaves cornice instead of the parapet which had been added, and replacing the late Gothic windows with windows in the style of those in the south aisle, which are those of the old church. We should be very glad to see the parapets removed from the whole of the roofs; and if the late windows that have been removed were as bad and "debased" in style as one or two others in different parts of the church, they need not be missed. But this sort of restoration, which really falsifies the history of a building, should only be resorted to in extreme cases; and we hope there is no idea of continuing the same process in the next two bays of the north aisle, as one at least of the late windows inserted there is a good one of its kind, and ought not to be removed. The boldness and variety of design, and the fine workmanship of the corbels beneath the gutter-table, in the choir portion especially, cannot escape observation. Both in detail and in general design there is an extraordinary impress of power at Romsey; power of a somewhat rude and untutored description, but not the less remarkable. The square tower, with its one stair turret, is impressive solely from its mass and the almost unbroken expanse of grey stone which it presents. Climbing to the summit (no very arduous task), we find the bells hung in frames above the level of the tower walls, though of course the bearing is a good deal lower. An octagon wooden turret, of the plainest and most meagre appearance, a kind of shed in fact, has been built over them on the tower roof; this is a point which is susceptible of improvement, and might very well be improved away altogether, and something more in keeping with the character and expression of the structure substituted, at the same time when the interior woodwork and fittings shall be improved. The bells are an old peal, formerly of eight, and were hung in an adjoining tower, very likely that of the church often found in the vicinity of Benedictine monasteries, for the use of the laity in connexion with the establishment as workmen, &c. About 1790 the bells were re-cast, by the firm of Mears, as a peal of six, and hung in their present position, and the tower in which they hung has disappeared. They look like a fine peal, of considerable size and weight; we did not hear them. Romsey tower, though by no means lofty, from its raised position commands a fine prospect, and from it we look southward across Hampshire and the New Forest, and can see, beyond, the outlines of that remarkable heap of chalk hills which is known all about here as "The Island," looking faint and blue in the extreme distance. And so farewell, for the present, to Romsey Abbey Church, an architectural monument remarkable not more for its stern grandeur of style than for its individuality of treatment, and in which some of the most cherished convictions of the modern architectural student seem to be called in question.

IRRIGATION AND WATER SUPPLY.

THE Society of the Union Castellana (with its head-quarters at Valladolid), established for the purpose of developing the industrial interests and general prosperity of the Province of Old Castile, and its chief city, Valladolid, the ancient capital of Spain, obtained, on the 21st of April last, a Royal decree for a perpetual concession, authorising them to throw a dam across the River Douro, and construct a canal of thirty-one miles, with a view of fertilising thousands of acres of the richest land in Old Castile, and supplying the city of Valladolid with drinkable water. The quantity of water to be taken from the river and thus distributed exceeds 80,000,000 gallons daily, which is entirely distributed by gravitation. The Society Castellana have assigned their concession to Mr. George E. Peters, of London, without any payment beyond a share of the net profits which it is believed will be very large, water being in Spain such a necessity, and particularly to the "burning plains of Old Castile." Spanish water companies have the power of selling a certain quantity of water in perpetuity for a certain sum of money, and the Corporation of Valladolid have already bought 40,000*l.* worth of water for public services, to be paid for in annual instalments, commencing at once.

The Somersetshire Archæological and Natural History Society.—The twenty-eighth annual meeting will be held at Bath, on Tuesday, July 18th, under the presidency of Mr. Jerom Murch. An opening address will be delivered by the president. The Abbey Church will be visited, and the Society will visit various points of interest in the city, under the guidance of the Rev. H. H. Winwood. On Wednesday the Society will leave for Bathampton; and on Thursday for Englishcombe.

REFINEMENT AND BUILDING.

IT ought to be some consolation to those who, amidst the remains of historical edifices in different parts of the world, in museums and similar places, entertain a secret wish to admire, and a half-formed, latent intention to learn how to do so, that the priests of the art-divinities have long been very much divided upon the question which perplexes laymen. Thackeray's Colonel Newcome was not more vexed and puzzled when young Templars told him that Dr. Johnson did not write English, and that Addison was a shallow trifler who merely expressed himself with elegance, than is many a worthy scholar and gentleman who, at the present day, attempts to penetrate the morality of architectural principle. That doctors of every profession should differ, and agree to differ, is acceptable up to a certain point; but that technical opinion should be apparently irreconcilable, both in spirit and practice, increases the confusion of style which now reigns in all kinds of buildings. So anomalous is the artistic composition of a London street that the British representative of Nemesis doubtless looks contentedly aside; yet the disagreeable old goddess of Rhamnus, who may be called the patron-saint of archæologists and modern architects, has so often turned her envious glance upon the world's stage — whenever artistic felicity has been reached, or, to her mind, has endured long enough—that the various forms of ancient architecture are a ready subject of professional dispute, and the so-called architect of to-day one of amateur derision.

According to the Socratic dictum, men differ as to what is fleeting, and agree as to what is eternal. It would be well if in architecture they differed only as regards form and details which are fleeting, and agreed about principles which are eternally true. But it does not seem that a principle of construction is yet acknowledged to be inviolable, nor, indeed, that any such thing as a principle is generally recognised. Nevertheless, after a protracted dallying with the beauties of every known method of structure and decoration, there is springing up an inclination, amongst architects at least, to reform the present mode of ornamental building upon a basis of common-sense rules. But, we take it, people must be first brought to understand what these rules are, and, before all, to define the real meaning of that hackneyed compound word, common-sense, when it is technically applied. Nothing can be more indisputable than the repeated assertion that true architecture combines the useful and the beautiful; but how and to what extent beauty is to be added to utility is a fruitful theme of discussion, and one to which the usual resort to natural evidence or example brings little aid. Fitness, according to Burke, is not only not always the cause of beauty, but, in nature, experience shows use and beauty to be in no way dependent on each other. "The idea," said he, "which mankind most commonly conceive of proportion is the suitableness of means to certain ends. . . . . Therefore it was necessary for this theory to insist that not only artificial, but natural objects took their beauty from the fitness of the parts for their several purposes. But . . . . . on that principle the wedge-like snout of a swine, with its tough cartilage at the end, the little sunk eyes, and the whole make of the head, so well adapted to its offices of digging and rooting, would be extremely beautiful."*

Nature in this instance has attained her aim in the speediest and readiest fashion, whether by the law of survival or any other law is immaterial to the argument; and it would be absurd to ask her to add what might be ornament in the modern sense of the term, but certainly not beauty, to her work. Yet many excellent critics say that art must go further than this. They maintain that no building, however commonplace, is artistically perfect unless the attainment of the end is accompanied with beautiful results; and they are backed by the unsupported theory that in ancient and mediæval cities all buildings were beautiful. But these enthusiasts surely forget that it is only the higher order of artistic creation which has been preserved to the world. To argue that, because the Parthenon is an example of utility and beauty inseparably blended in one incomparable whole, therefore all the smaller Athenian buildings, houses, and huts, of the Periclean epoch, were models of artistic excellence, is to say that, because there have been found statues which were executed more than two thousand years ago, and which show the human form in the highest bodily perfection, therefore there were no ugly men of intellect in those days; and that then even so useful a scavenger as the pig was an object of beauty and refinement.

In the leading article of our last number we related from a French source how Ingres, with his classical brush, had painted a vase destined only for the decoration of a servants' hall. Again, the tourist of the Loire may have visited a certain château built partly on a bridge which spans that river, and he may remember that all the kitchen accessories are preserved—unused—in the state of perfection which belonged to them in the sixteenth century. To be able to see and admire in even the commonest domestic utensils something quaint or otherwise remarkable, to touch nothing that is artistically or æsthetically unclean—in fine, to be surrounded with the beautiful, is the bright aspiration of many at the present day. Cultivated ladies and gentlemen who, with great trouble and at a vast expense, succeed in making the insides of their houses totally distinct from the outsides, adorn the walls of their rooms with objects foreign alike to the private connexions of family, and the common traditions of national history, with the idea that such ornaments are bizarre, uncommon, or unique. But neither Ingres at work upon the vase for John's and Mary's edification, nor the painfully clean kitchen-furniture at Chenonceau, nor all the purple and fine linen of the artistic Pharisees, nor all the broken china and spurious curiosities of the bric-à-brac hunter, shows a healthy state of education, or even comprehension, of artistic culture. There is a touch of priggishness and affectation about all of them. It would have been better that the domestics of fifty households had possessed in each of their halls a vase containing a creditable delineation of some national custom or native story than that one should be favoured with an object which Ingres had affectedly enriched with his own hand. Those plates and dishes which elegant ladies now cause to be hung upon wires in their boudoirs and drawing-rooms were meant to hold slices of bread and meat, cheeses, and pats of butter; and in an age of refined feeling for art their place would be the pantry or the hall. The effective hanging of such things for purposes of "ornament" alone in incongruous corners no more proves that their owners possess a love for art than that an ill-conditioned man, who keeps in his library a copy of the Ten Commandments, will hesitate to sell adulterated goods, or covet what belongs to his neighbour.

The streets and squares of a city may be eminently beautiful, and yet contain a majority of commonplace, strictly utilitarian buildings. The known archæology of the world proves it. Travellers may say that the native city of Agra is a direct proof to the contrary; that there, balconies, kiosks, and hooded windows adorn every petty house in the principal street, which is brilliant with carving and decoration. It must be remembered, however, that in India, marble, stone, and similar durable materials are reserved for two only of the three classes of humanity in general, and that the poor and uneducated have not, and never have had, any solid shelter except,—and then not always,—as the slaves or dependents of their betters. In Calcutta and similar Indian cities native servants may be seen every night rolled up in white coverings upon the pavements, and sometimes on bedsteads placed in the open street. It is not by any means likely that the lower orders of the Athenians, under Pericles, were better cared for than are those of India under English rule. In England itself a totally opposite state of things, due partly to custom, partly to climate, exists; for to rest at night, even for a few minutes, in a London street results in a peremptory order to move on, or in forcible removal to the lock-up. It is consequently an inevitable necessity for every one, even the poorest, to find some sort of absolute shelter, if not by day at least by night; and the obvious question arises, admitting, as reasonable men do, that there must always be poor people, are such shelters in the millennium yet to come to be specimens of artistic excellence and æsthetic beauty? A lesser wit than Sydney Smith might have answered it with equal force In his time somebody had been talking or writing about ornamental architecture at Botany Bay, then a favourite penal settlement, and he inquired how in such a place a sane person could aim at any other architectural effort than the exclusion of wind and rain. "A man," said he, "who thinks of pillars and pilasters when half the colony are wet through for want of any covering at all, cannot be a wise or prudent person."

Amongst ancient communities little heed was paid to the wants of the many; but modern laws forbid the masses to starve either with cold or hunger. It would be absurd to build for them, putting the question of economy on one side, anything else than what, analysed, is a useful and an honest piece of construction; but because it is mere utilitarian building it is by no means likely that ordinary workmen can do it without refined superintendence. It has, however, been recently urged that workmen should be encouraged to form themselves into co-operative clubs, for the purpose of erecting blocks of dwellings for themselves, and to their own liking; but we can conceive no more suicidal mode of procedure. The first thing the vulgar mind is seized with is a combination of pilasters, vases, and a backless pediment; or one of useless buttresses, false arches, and crocketed pinnacles. Much cultivation is required to know when the really useful has been attained, and, above all things, in an honest fashion. A mere utilitarian building may contain every principle of architecture. It is by the existence, or the contrary, of principle in such buildings that the true critic judges, and upon which, very often, not only the durability of the work, but the comfort or discomfort of the inmates, and the general internal and external aspect of the entire home, depend.

The gradual recognition of the theory that architecture is building refined affords an argument to those Englishmen who, knowing the difficulty of rivalling the Greeks, urge that native mediæval example is as worthy of modern emulation as it is capable of being adapted to actual habits of life. A cheap utilitarian building shaped into Gothic outlines, say they, may be picturesque in spite of any baldness of appearance. You have but to ornament or decorate its constructive parts and you reach—architecture. That, however, is to go too far or not far enough. We will suppose that in a workman's dwelling we have a window-opening 8 ft. high and 4 ft. wide. It is perfectly easy and traditionally correct to cover an opening of such a size with a flat or a slightly-segmented arch. To put over it a pointed arch of any description, or a rounded arch with a pointed extrados, simply to impart a picturesque effect, is not to refine building, but to burlesque architecture. And for whom, pray, is the sentiment contained therein introduced? Surely for the passers-by rather than the inmates; and if, for the former's sake, the modern architect is to make poor dwellings picturesque, the modern tailor must also be invoked. It must be much more painful to the refined appreciation of the Londoner in his short cut-away coat and tall chimney-pot hat to meet face to face British workmen in their unpicturesque garments, than to pass a street lined with their dwellings.

That characteristic of old architecture, which has come to be prized so much of late years, has induced a certain love or rage for irregularity-at-any-price, which is a reaction, as it were, upon the symmetry-at-any-price of our grandfathers. Certain comparatively old families had inherited houses which had been altered, enlarged, or repaired by their ancestors, as one died and another succeeded. But these were few; and more numerous families newly ennobled or newly enriched coveted similar houses. The architect, with his archæological bible in hand, was equal to the occasion; and aspirants, if they had money enough, had but to ask and have in three years the exact counterpart of towers, gables, and cloisters which formed the amended patchwork of three centuries.

Time is the great master whose work attracted the public in their search after the picturesque. But men live so fast nowadays that they cannot wait for time. Their manufacture of churches, castles, and manses is now arrived at such completeness that, on mediæval hunting-ground, even the professional archæologist sometimes loses the scent. That, however, was not the way in which, in the Middle Ages, buildings were designed and constructed. Like the Greek masterpieces, most of the French and English cathedrals were erected within an

* This quotation, from the celebrated "Essay on the Sublime and Beautiful," is admirably balanced by one from the the sixth *Entretien* of M. Viollet-le-Duc:—"Animals possess 'style,' from the insect to the noblest among quadrupeds. With them there is never a gesture or a movement which does not indicate distinctly a want or a defined intention, a desire or a fear; animals are never affected, pretentious, or vulgar. Handsome or ugly, they possess style, because their sentiments are simple, and they seek the ends they have in view by simple and direct means."

incredibly short space of time, and, what is more, they were generally symmetrical in plan and section. Subsequent and repeated alteration, to say nothing of fire and fury, have imparted the irregularity which now distinguishes them. But that the strikingly picturesque effect of the Athenian Propylæa was obtained in the same manner, or that the Greek grouped his buildings in regard to their surroundings with an intention of obtaining that effect, cannot possibly be admitted. It is the Teuton who mentally suggests, not the Greek who practically invented the picturesqueness which clings to the gates of the Acropolis. Romance and sentiment came southwards, with the wild hordes who subdued the Roman Empire, and ultimately destroyed the strict traditions of classical art. Lord Aberdeen, writing in 1822, on the principles of beauty, said:—"The ancients never possessed any perception of those qualities of external objects which are called picturesque. At least, in the Greek writers, there are no descriptions to be met with of scenes viewed merely as pictures, or as delighting the eye through the imagination alone." That is to say, there was no scenic architecture in Greece, for in ordinary works it was strictly utilitarian, and in extraordinary ones it was æsthetically refined into beauty. We take it that, in the time of Pericles, the Greek architect was a highly cultivated, matter-of-fact person, deeply versed in mathematical science, and secretly proud of the power he had acquired, through inheritance and study, of counteracting optical illusions in the perspective of his buildings. Essentially a constructor, he would no more have strained after a picturesque effect than have been guilty of word-painting; he might have delivered some of M. Viollet-le-Duc's lectures, but never any of those of Mr. Ruskin.

If it is absurd to build up, or, to use the appropriate phrase of the theatre, to "build out," the picturesque, it is still more absurd to suppose that refinement, in the Greek acceptation of the technicality, ought to be applied to any and every description of modern building. To imagine such a thing is to imply that poetical inspiration is the appanage of all men, and philosophical argument their habitual recreation. Now that the snare of mediæval picturesqueness is beginning to be found out, it may be opportune to add that the pursuit of Greek refinement is worse than a snare. Its attainment, except in a few cases out of thousands, is as impossible as it is unnecessary. Every salient line in the stones of the Parthenon was the subject of minute calculation and laborious study. Human happiness, according to Swift, in the "Tale of a Tub," is a perpetual possession of being well deceived; and to satisfy the cultivated mind and humour the equally cultivated eye was the aim which the Greek attained. Those who, for 300 years, have been sticking or hanging columns and pilasters to stone and brick walls; crowning them with pediments; and heaping, in laboured caricature, fragmental imitations of antiquity one over and against another, did not know how the Greek master finessed in order to insure observers of his own and future times a perpetual possession of artistic happiness. They believed that classical architecture could be revived by the symmetrical distribution of certain columns and cornices of certain shapes; and that symmetry meant similarity of arrangement and preciseness of dimension. It was only during the early years of this century that the truth was discovered; and, as we have already shown, principally by the labours of Englishmen,—at least as far as Greece is concerned. The lesson now to be learnt is that the Greek architect was not governed, as Mr. Penrose has well said, by "fixed formulæ which he could not modify." Like his less cultivated successor of the Middle Ages, he cut his coat according to his cloth; and, as an instance, having obtained with much difficulty the requisite number of lintel-stones—whose collective length was sufficient to cover his colonnade—he cared little whether the inter-columniation was exactly regular. Witness the flanks of the Parthenon, where some of the lintels are rather more, some rather less, than a certain uniform length. All that he seems to have insisted upon was, that the joint of the lintels should fall exactly over the centre of the column, and that the centre of the triglyph, which was the vertical continuation of the column or point of support, should fall exactly over the joint of the lintels.

Of course, all sorts of hypotheses have been made to account for the irregularity which has been discovered in parts of the arrangement, and in some of the details, of the Parthenon,—an irregularity which would have been allowed to escape comment had not the rest of the building evinced the minutest mathematical exactness—and that those which attribute it to the dictates of necessity, utility, and common-sense now obtain the largest number of adherents is a favourable sign of the times. Indeed, many who have carefully measured ancient and mediæval works will not be indisposed to agree with Mr. Burges. In his recent thoughtful paper upon "Greek Art,"—to our mind a valuable and significant addition to the technical literature of the day,—he ventured to doubt whether the delicate curves obtained by the Greeks resulted from the geometrical means described by Mr. Penrose; and he suggested that they were due "to some simple mechanical instrument such as a bent lath in the case of the lines, or to free-hand drawing in that of the mouldings." It is quite useless to discuss how such curves were obtained; suffice it that they exist; and those who have seen, in the north-west of India, native draughtsmen squatted upon their haunches and drawing complicated curves upon loose paper laid on the knee, may perhaps incline to Mr. Burges's suggestion regarding the free-hand tracing of the moulding and enrichment of a Greek cornice. That an analysis of its component parts reveals a series of delicate and subtle observations on the part of the architect has been admirably shown to the student by M. Viollet-le-Duc. If the Greek enriched the face of his marble or terra-cotta gutter, it was not for mere love of ornament, but because the face of such a gutter must inevitably get spotted and disfigured with rain and dust, the effect of which was concealed or counteracted by the lights and shadows of the enrichment. As long as he remained a cultivated utilitarian he put no base to his columns for people to knock their sandals against; and even when he did begin to put bases they followed the contour of the column. He increased the diameter of an angle column in deference to a desire for strength, and in defiance of what is now called symmetry. If a projection here and there upon his best works extant yet remains unexplained, it probably held a piece of scaffolding, of which he was as sparing as the builders of to-day are lavish. He never altered the profile of a cornice, or even of a moulding by the ornaments with which he enriched it. Indeed, the form and the structure were with him so much one and the same thing that no mental effort or embarrassment takes place in the attempt to grasp or understand his intentions.

But although the Greek architect expended the wealth of his intellect upon the public works of his country, there is sufficient evidence to show that in private buildings he was as hostile to ostentation as the English gentleman is or was reputed to be. In Athens, in the best times, when the temples were magnificent, the private dwellings, according to Demosthenes, were invariably simple and modest. Even the residences of Aristides and Miltiades could not be distinguished from those of their neighbours. It was when attempts were made to emulate in smaller public buildings and in domestic habitations the grandeur and refinement which had been dedicated to the Gods that the subtlety of Greek art disappeared. Ridicule, at least in art matters, then killed in Athens as surely as it does, or lately did, in Paris. If it does not kill in more fortunate countries, it is perhaps because, there, the bathos is neither felt nor perceived. Our grandfathers piled full-sized models of the "Lantern of Demosthenes" and the "Temple of the Winds" one over another in the form of a Gothic steeple, which they set astride a classical portico. In our own time we have warehouses and taverns with traceried and stained glass windows; and as in human so in artistic morality, too much familiarity breeds contempt.

That a disposition to sobriety in architecture is gradually spreading amongst all classes of educated people is evident. So much is known now that it is absolute labour for one man to make a complete display of his antiquarian lore. He cannot now bear down upon friends and clients with all his archæological learning at one fell swoop. The best works of antiquity and of the Middle Ages are like "funeral baked meats" served cold at the marriage-feast of modern eclecticism; and the *gourmand* scorns a *réchauffé*. The other day an architect, who has been engaged for a quarter of a century on the practical work of his profession, wrote:—"For myself, as I get older, I begin, for all ordinary work, to believe in the 'no style,'—something very plain, simple, and genuine." Such an admission betrays, perhaps, satiety; but it certainly implies intellectual ripening. It requires intellect to put together a plain, simple, and genuine edifice; whereas, more artistic superficiality can accomplish with ease what is picturesque, pretty, and pretentious. Simplicity and genuineness mean refinement as Englishmen understand,—ay, as the ancient Greeks understood,—the term. They mean something which is the natural enemy of burlesque and masquerade. They mean work for gentlemen and men of intellect; and unless this class of the community chooses to interest itself seriously in architectural matters, the progress and improvement of modern cities is impossible; for, although regeneration in national policy may sometimes spring from inferior popular strata, regeneration in national art must descend from the cultivated classes of society.

PROGRESS AT SALISBURY CATHEDRAL.

THE work of restoration which has been going on for twelve or thirteen years at Salisbury is now not very far from completion. The eastern arch of the nave is still blocked up by the very unsightly boarding which has for a good while past stopped the view at that point, where, considering the length of time that the obstruction had to remain, it might be thought that something a little more decorative might have been contrived as the background to the temporary choir. However, there seems now no reason why the work should not be completed at least at an early period in next year, if not within the present year.

The scraping and revivifying of the surface of the masonry in the choir and north transept has been accomplished, and the repairing of the numerous portions of the Purbeck marble shafts which had decayed past making good, except by the excision of the decayed portion and the replacing of it with new material. This cutting and repairing of the Purbeck marble, an operation requiring great care, has been one of the most costly items in the work of restoration. At present the south-west transept is a forest of scaffold-poles, and the same work of scraping the stone and repairing the marble is being carried on there. In the choir the floor is in process of being re-formed at its original level, as it had undergone the process of raising which the restorers of another epoch were so fond of indulging in; and some of the marble inlay which, together with tiling, is to form the floor design (in the manner already carried out in the floor of the presbytery), is in readiness for laying. The last discovery during the restoration was that of a stone screen of Late Perpendicular work, containing a series of niches, between the piers of the arch in the south arcade of the choir which coincides with the eastern transept. This screen had been built over by a plain wall, within the masonry of which it was enclosed, and which has been removed and the screen restored in its original form. The piers of the arcade, by the way, between this point and the crossing, lean away towards the east, under the pressure of the tower, to an extent which is painful to the eye, though probably not now of special consequence in other respects, since the abutment was built into the eastern transept arch. Had this abutment arch been part of the original scheme, in place of the lofty east transept arch going up through the triforium stage, and leaving a great void at the level of the springing of the main arcade, there would probably have been no movement of the piers of the latter worth speaking of. As it is, the abutment arch was a kind of shutting of the stable-door after the steed was stolen; it prevented the possible total overthrow of the structure, but could not ameliorate, of course, the work of displacement already done. One can only wonder, in looking at such an incident, at the extraordinary contradiction between the boldness, enterprise, and genius of the builders who could plan and execute such a structure as this, and the want either of almost ordinary common-sense and foresight, or of statical knowledge, which could render them blind to the necessary consequence of such a discrepancy between the vertical pressure of the centre tower and its longitudinal abutment.

So much of the scheme of decoration of the choir is completed as may enable one to form an idea of the result of the whole, which seems likely to be good; rich in effect without being too heavy or pronounced. The surfaces of the vaulting are decorated by figures nearly white, and merely lined in, in circles and on grounds of blue or ochre. These are painted in the centre of

each compartment on the white surface of the vaulting, the remainder of which is painted a brick pattern, and the mouldings of the ribs coloured. The design is on the basis of remains of the original coloured design discovered on the vault, and has been executed by Messrs. Clayton & Bell. The mouldings of the arches in the main arcade, triforium, and clearstory, are relieved in colour, of which the most prominent lines are formed by colouring the roll mouldings red and green; the red, subdued in tone, being the more largely employed; the hollows are coloured in more receding tones, and in some cases picked out with a simple decoration in white. A similar decoration is continued in the vaulting ribs; the bosses of the vault are gilded, and the fillets of the Purbeck marble caps in the upper and lower arcades are also relieved with gilding. The spandrels over the arches are covered with a conventional scroll ornament on a large scale, of symmetrical design, and following in its disposition the shape of the spaces to be covered: the main part of the design being carried out in line with portions of positive colour, of low tones, introduced at the emphatic points of the scroll-work.

The new reredos is in process of execution at the hands of Messrs. Farmer & Brindley, and a new organ by Willis is in hand; both these, we understand, being the gifts of individuals. We may mention that about 6,000*l.* or 7,000*l.* are wanted to complete the work, which is paid for, or nearly so, up to the present point; subscriptions towards the completion will be welcomed.

It seems a pity, as the restoration and the decorative schemes of the choir are being very completely carried out, that some of the stained glass offers so little for satisfaction. The east windows of the presbytery are filled with very questionable glass, by a firm which had more reputation at the outset of the Gothic revival than it now possesses. The windows are weak in design, and heavy and inharmonious in colour. Over the arch which separates the choir from the presbytery is a truly dreadful window of some two centuries ago, which, being a family memorial, must, we suppose, be considered sacred, and which, in fact, has been lately repaired and made to shine with added lustre. Under the circumstances, we presume, its retention in its original position is unavoidable; but it is a terrible eyesore, not only in style and design, but in the crudity and harshness of its colour, which injures the aërial perspective of the choir, and will clash seriously with the scheme of colour decoration on the walls. Then there is the south window of the east transept, which has been filled with the *débris* of old glass in a most marvellous manner. In the east window of the south aisle some of the old glass has been put together very successfully, at each side of the window, as a framework to a modern stained-glass design; but in the transept window some hundreds of odd bits of glass are promiscuously leaded-up without the slightest attempt at systematic arrangement, with a result which suggests nothing so much as looking into a kaleidoscope at the wrong end. Seriously, the effect of this is exceedingly bad, and it is absurd to say that every morsel of old glass is so precious that it is to be stuck together in this way to disfigure one of the principal windows of the cathedral. Let this glass be taken out, and the pieces which will work together rearranged into something like a design, and the remainder made out with modern glass. Some other use might, no doubt, be found for the parts of the old glass which will not work into any shape; but it would be better even to throw it away than to disfigure the five lancet windows, as they are now disfigured, by this piece of archæological hodge-podge.

Readers need hardly be reminded that the restoration has been carried out under the direction of Sir Gilbert Scott, who has also just completed another small piece of restoration, in the shape of a very picturesque residence overlooking the close,—a quiet bit of late domestic Gothic, which harmonises very happily with the peaceful aspect of the broad, level lawn, surrounded with trees, from which the cathedral rises, and which affords such a beautiful base for its aspiring vertical lines and pyramidal composition. On this particular day, however (one of unusual brightness), the best thing we saw was the view of the building from the west walk of the cloister, with the tower and spire, white and glittering in the strong sunlight, soaring into the blue of a cloudless sky, above the cool green of the cloister court and the two cedars,—a picture worth remembering.

HEALTHY HABITATIONS.*

I HAVE often been called to a residence where a dank and unpleasant smell was prevalent, and traced it to nothing but rot. I do not allude to the wet rot which seizes wood alternately wet and dry, as between wind and weather of a fence-post, but the dry rot which is due to the placing of unseasoned wood, or, indeed, any wood in close contiguity to the surface mould and the gases evolved in its decay, and in situations where there are no ventilating air-bricks, and consequently no change of air. Floor joists which have been long surrounded by dead air will weigh light as a feather when taken up, all due to fungous growths and the like. The worst of it, too, is, that by a catalytic action the decaying wood infects the sound, and the mischief never ceases until that whole level of floors is destroyed. If on inspection the attack has been found a moderate one, and the space between the joists and the ground sufficient, the infected places may be cut out and the space ventilated. A pipe may also be laid underneath the fire-grate for a time, to ensure thorough drying. But if the joists rest on the bare ground, the only remedy is to take them up, dig out the earth, laying down some concrete if necessary, and refix fresh and seasoned timbers. I would not depend even upon sulphate of copper or chlorine. Many architects specify the joists to be treated with various solutions, under pressure or otherwise; but it is really not necessary if good ventilation amid joists be provided. With greater reason should we seek to preserve our wood-carvings from the ravages of those three species of beetles which require plenty of light and open air, and would seem to look upon a rich chasing as does a gourmand upon a sumptuous restaurant. One wonders, nevertheless, how our fathers escaped these pests, and why we do not find the powdering rot or the shell-lined burrows in the time-honoured timbers of our many abbeys. I carefully examined an Egyptian coffin the other day at Dresden, and it showed decay of no kind. My own impression is that we build far too quickly, and out of undesiccated materials.

Pass we to the walls of the house. Bad walls may be constructed of too-porous materials, which will allow the beating wet to pass through them. Here the advantage of hollow walls is manifest, down the interior space of which the moisture may trickle and be carried away. It has been suggested that walls should be built of impermeable materials, to prevent the intrusion of water; and at one ironworks alone in this country some 120,000 bricks formed out of blast furnace slag, are turned out weekly. But in a house built in Bavaria with this very material, it was found that, although dry at first, it proved unbearably damp in the end; the reason being that the vapours given off in cooking, washing, and breathing simply condensed upon the inner surface and remained there. The truth is a wall must breathe; and even with the doors, windows, and registers shut, a sensible supply of air should pass in and out of the room through the wall substance. This is supplying fresh air without draught, and as was intended by Nature. For this reason also it is wrong to paint the walls either inside or outside, to cover them with varnished papers, or, in fact, to do aught but distemper them with water-colour which cannot close up the pores. For so surely as we do prove treasonable to Nature in this matter, so certainly shall we suffer. In halls and in corridors where ventilation is constant, and where one merely passes and repasses, we may indulge to the long length of our purses in marbles, casings, tiled dados, and oil-painted spaces; but in our living-rooms and dormitories let us beware of such innovations.

The walls of a room may, however, be properly enough built and yet act prejudicially, owing to the papering bestowed upon them. I need say nothing, however, of the arsenical papers and the poisonous flock papers, for householders are now mainly alert to the mischief which they work, and are even demanding that Government paternal should forbid their importation or manufacture amongst us. That arsenic is sometimes poisonous, even when present upon smooth substances, was proved the other day at Bonn, where a professor and two students were seized with violent headaches, and where the mischief was traced to the green shade over the lamp, which was coloured by the poison, and which the heat of the lamp had set free. In like manner the dust falling from the poisonous wall-papers is dangerous when breathed by the inmates of a room. Such dust is even conveyed to other rooms by our senseless habit of dusting with dry cloths upon the floor. Nor does the evil of paper-hanging end here; for coat upon coat of paper and paste, size and paper, may sometimes be found on the walls of a house just got up for an incoming tenant. I have seen seven different paperings, embodying apparently every taste under the sun, taken from the walls of a single room, and the difference to the occupant afterwards was something wonderful.

Ventilation and heating I treat as kindred subjects, and as dependent upon each other as are the boiler and firebox of the engine upon the coal and water of the tender. I have examined in many countries some hundreds of patents, and seen generally, I believe, all that has been most lauded in the way of ventilating houses, and I have found that the best systems have always been the simplest. First of all, decide whether you will adopt the common firegrate or the ventilating fireplace. If you adopt the ordinary firegrate in the living-rooms,—and choose you the old Rumford pattern,—supply it with air from without, and it will then cease to draw cold air from the passages and chill your feet as you sit by the fire. Then provide an inlet of cold air, broken up by passing it through a grating, such inlet to be from the floor line as high as one can conveniently reach. As for the outlet, if you have a separate foul air-flue running up alongside the chimney-flue, insert an Arnott's or a Boyle's mica-valved ventilator into that just below the cornice; and if you have no separate shaft, then insert the ventilator into the smoke-flue. I would further recommend a shallow ventilator over the head of each door, the whole width of the door, and with the means of closing it in winter. In summer, when all these are open, the effect is congratulatory. But be sure that the kitchen is well shut off, or well ventilated of itself, with separate inlets and a strongly withdrawing foul air-shaft.

In the case of bedrooms, where common grates are to be used, I would equip the doors with the same ventilating panel overhead. But I would furthermore raise the lower sash of the window 3 in., filling up the gap below by a piece of wood stretched across the opening. Provide, also, the means of lowering the top sash. The lower sash being lifted up, a never-ceasing air-current from outside is directed between the meeting bars and driven upward towards the ceiling, being, moreover, sensibly warmed in its passage. The outlets will be found at the registers of the grates or at the valves in the chimney-breasts. Mr. R. Rawlinson, who kindly showed me, at his own residence, windows fitted up upon this system, has expressed himself to the effect that this plan of Dr. Bird's is the best possible arrangement. The living and bed rooms thus ventilated, there remains the staircase, which should be provided with an outlet. Mr. Rawlinson lifts up the flat ceiling-light a little; and where there is none I would make an opening into the outer air at the highest point, with a protection-box to prevent an inward current.

If the owner makes choice of ventilating grates behind or around which a chamber is formed, in which air from without is warmed and allowed to enter the room at about mantel-piece level, and if the architect has built separate foul-air flues alongside the smoke-flues, I would still provide the valvular ventilators in the chimney-breast, because I have seen them act beneficially. But if no such separate flues exist, these should not be inserted in the smoke-flue, as might be done with impunity with a common fire. The behaviour of the hot air, as it issues from the warm-air chamber, is to mount to the ceiling, adown the wall, dispersing itself pretty equally throughout the room, and then across the floor to the fire. But although this is so, I would nevertheless introduce some inlets for fresh air during the summer, and, moreover, retain the power of withdrawing the respired air by means of the foul-air flue in the chimney-breast.

When building a house I would always provide the panel over the door, and separate air-flues to supply the fires with air for combustion. Between the smoke-flues I also invariably provide a foul-air shaft, terminating a few inches above the ridge on the sheltered side of the chimney-stack. In the case of a cottage, one such foul-air flue will serve several rooms, but in larger mansions I always make a separate air-withdrawing flue to each room. In the reception-rooms and other large rooms I cause on each wall, during the process of building the walls, a

* By Mr. Eassie. See p. 629, *ante*.

4-in. shaft to be built from the ground-line to the eaves, and these can be made to act as inlets or outlets, according to the weather. In the depth of winter, also, they are readily utilised for gas calorigens.

I need not, I think, describe the whole-house system of ventilation, although I warmly approve of it, because it must be studied in detail. Here a single inlet of warm or cold air is provided for the whole house, and also one common abstraction shaft as an outlet, with controllable valves and other requisites. It has proved a great success where it has been tried by Drs. Drysdale and Hayward, and if properly attended to will change the air in every room of the house every twenty minutes. I am afraid, however, that the system would be too costly for general use.

I have only one word more to say on this part of the subject, and that is that, whenever possible, a vestibule should be constructed in the hall, and the air warmed for the hall use, and for the use of all the passages. The advantage of the ventilating panels over the doors will then also be felt. But the stove or calorigen should be fed with a tube-conveyed stream of pure air to be warmed within it, for delivery into the room. If hot-water pipes or coils are used, bring in all the same the stream of cold air to the under side of the pipes or coils, and save the churning and burning of the air over and over again. Moreover, if there be a coil-case, see that it runs on castors, and enables the servant to dust the pipes,—burnt dust being very offensive.

Ventilation should be so perfect as to permit even of the withdrawal of any lighting gas which may have escaped, or at least for a sufficient dilution of the gas to prevent the recurrence of such disasters as the late one at Arbroath, where three people perished by suffocation. The results of gas poisoning have been carefully noted, and the reports of the necropsies given by Dr. Lockie, of Sunderland, in which city a youth of eighteen years was poisoned, and by Dr. Sneddon, of Beith, where a man aged thirty and a cat perished together. Within the past two years leaks from gas-pipes have also caused explosions, which resulted in the loss of three lives at Southgate and two at North Durham, and London has but lately to lament the loss of Dr. Foster by a similar calamity. Serious explosions have also occurred at Sheffield, Wirksworth, Rochester, Ashbourn, and doubtless at an endless number of unreported places. Sometimes gas has escaped into the house from leaks in the main outside, and gas will creep along underground for an astonishing distance. It has been traced for 30 ft., and even across a roadway on one occasion. The only cure for this evil is to compel the companies to insert stop-valves in their mains, so that the flow of gas from a fractured pipe can be prevented pending its restoration.

But I would recommend more than this, and nothing less than the compulsory testing by the gas companies of the house-pipes before their commodity was allowed to pass through them. And I would insist upon the pipes being tested every time the reading of the meter was taken. With our system of working, the gas companies are independent of the leakage going on in the house-pipes.

Now, in America, before the gas companies will make the connexion with the meter, they satisfy themselves that the pipes are intact. The contrivance used for testing is a force-pump of simple construction, and connected by a tube with the only one of the burners which has not been plugged up. If, after forcing the air into the pipes, the mercury rises in the gauge and remains steadily at the one height after the stop-cock has been shut off, the pipes are sound. But I have often seen the mercury dance up the pipe and disappear when the pumping ceases, in which case either there is a leak at the joint or a split at the weld, or may be there is a plug left out behind the papering, as happened to be the case the other day, or peradventure something has happened to the composition piping. It would not matter very much certainly whether the gasfitter were bound to test the pipes before the gas company laid on the gas, or whether the gas company are compelled to test the gas before they connected to the main, so that the pipes were tested. I have seen here in London the most disgraceful jobs in the way of gasfitting which nothing but a systematic testing would have discovered. Another improvement which should be encouraged is the use of a gas-regulator. The best one I know can be seen in use at Judkins's, of Fleet-street.

As we perambulate through our ideal mansion, the next thing we would likely take notice of would be the water-pipes and the cisterns. In no house, whether the water supplied be hard or soft, should the water for culinary or drinking purposes be conveyed in leaden pipes. I will not insult my hearers by recapitulating the reasons for this precaution. Of late years the lead-encased block-tin pipe has been found to obviate very many of the evils complained of in lead pipes, and it will always have good work to perform for the community. But a still better pipe is used in America, and steps are just now being taken to introduce it into this country. I refer to the glass-lined water and gas pipe, in which the water comes into contact with glass only, and in which there can be neither oxidation nor corrosion. The interior being smooth also, there is less friction, and consequently the flow of water can be carried upwards with less pressure. Fortunately, too, the resisting power is very much greater than lead, and the cost is very little more than lead pipe. Those who have used it in America say that they would rather pay for this pipe than have any other fixed for them free of charge. It is constructed of an iron exterior casing, and between that and the glass is a compressible plastic substance, which is both a non-conductor of heat and cold. It is certainly a great advance upon everything that has yet appeared as a water or gas conveying medium, and deserves universal patronage.

One thing is quite certain, and that is, leaden cisterns should be abolished altogether, or confined simply to the supply cistern over the closets. I do not think either that galvanised iron cisterns are fit for the storage of water, inasmuch as zinc is a coarse metal easily oxidised. Poisoning by the oxide of zinc deposited in the cheaply galvanised iron cisterns and along the zinked pipes have been somewhat frequent. Thus, too, we have been obliged to discontinue the use of zinc-lined kitchen utensils. Paper collars also, when they were covered with zinc white, caused eruptions around the neck whenever the perspiration dissolved the zinc coating. I believe the best and handiest materials for cisterns will be found to be slate, enamelled inside. I always specify them, if used for drinking-water, in order that the least dust within will be discoverable at a glance.

When a house is supplied with well water only, it is wise to periodically analyse it. Seventy-five per cent. of waters sent from the country has proved on analysis to be unfit for use. I have a client at the present time residing in London who has fled a magnificent country seat simply because not a well on the house premises can be found to yield good water. When sickness first seized the establishment, the drainage was suspected, and certainly some serious evils were laid bare and remedied, but nevertheless the unhealthiness continued, and at last the water proved to be the delinquent; and the strangest part of the matter was, that the water which had been considered best on the estate, and which had not long ago been brought into the house at great cost by a neighbouring plumber, proved to be the very worst sample of the lot. Wells are more often than otherwise poisoned by the infiltration of sewage matter, but not unfrequently are they made unwholesome by the introduction of lead suction-pipe. When a well has been found impure, and it becomes incumbent to sink another, I make a trial of the most likely spot with the aid of a tube well, and if the discovered water proves to be good on analysis, I sink a well there. Several of these tube wells are now, however, driven at intervals apart, and, united by longitudinal pipes, are brought to one spot where a pump is fixed. This is often found to be cheaper and even better than sinking a well.

Many residences in the country are entirely short of water, taken either direct from the river, or raised from the water-bearing rocks. There is, therefore, nothing remaining for them but the utilisation of the rain-water. But in such cases I carefully exclude the supplies from lead flats, and use them in the soil-drains for flushing. In every case, however, where rain-water is used for drinking and cooking purposes, it should be well filtered. Sometimes I use a simple filter of one chamber, the water rising through sand and gravel, and in a general way this is sufficient. But cases do occur when it becomes necessary to interpose a depositing-tank previously to the water finding its way into the cistern, and when one must also use a more compound filtering media, as, for instance, chalk and charcoal, and shingle or sand. And when the sole supply of the house is derived from the rain-water collection tank, especial care should be taken to keep the gutters and downspouts in a cleanly state. It is perfectly astounding what impurities will collect there in a few months, what a load of fæcal matter, and what dead atomies of winged life. And not only should an overflow be provided for the tank, but a drain from the bottom, fitted with a plug and spindle, so as to facilitate cleaning. These drains should not, however, lead into the soil-drains. For the rest, a large ventilating pipe should be led up out of the tank to the open air.

I am surprised, considering how long the cylinder system of hot-water heating has been known, to see how persistently our best engineering firms continue in the use of the huge boiler at the back of the fire, and all its liabilities to explosion and other drawbacks. So thorough a case has been made out against the system, that I am sure every one is acquainted with its demerits. Indeed, the very method of its supply—from the often filthy small supply cistern in the corner, or in the dark cupboard, or even in the wall, is enough to prove that there is too much of the hole-and-corner business in it to guarantee perfect cleanliness. On one occasion, in Wimpole-street, London, I saw the small cistern mud thick with the remains of dead beetles and cockroaches, nor would the defilement have been discovered had not the decoction in time discoloured the water, and induced a search.

In the cylinder system of hot-water supply—and I never in any case recommend any other for washing up, or for bath water—I use the Dyer patent. The cold water is at the top of the house, and the hot-water cylinder near the fire. There is no need of a circulating hot-water cistern upstairs, neither of any small-feed cisterns downstairs. The cold water from the upstairs cistern enters near the bottom of the cylinder, and the boiler of the apparatus is of the smallest possible size. Should frost set in, and no water flow from the upper cold-water cistern to the cylinder, so as to force the hot water up, there will simply be a stop to the supply of the hot water for a time, but as the cylinder will be nearly full of water all the time, the small boiler will always be kept charged, and remain so until the frost surrenders. It is impossible to empty the cylinder from any of the taps, although it is in the power of the master or mistress to open a sluice-cock and empty it when it requires to be cleansed out. It may occur, of course, that a small boiler in connexion with the nursery or still-room fires would prove a great boon, and there is no objection to these. But there is to the large coffin-sized boiler at the back of the kitchen and scullery fires, it being a perpetual menace to the lives of the household, and worse than the sword of Damocles. With the cylinder system it is also possible to heat a few coils for warming the rooms and passages; but the coils should be galvanised if the water is wanted free from discolouration.

People are now so tired of being lectured upon drainage, of the danger of laying pipes under houses, of using bad drain pipes, and not truly turned ones like Stanford's; of the propriety of a good fall for the pipes; of good joints free from stuck-up shirt collars of cement inside; and have so often been told how a coating of tar round the outside of the pipe will prevent the entry of roots at any joint, that they smile simply, and hazard an opinion as to their entire acquaintance with all that could possibly be said upon the subject. This boast would, however, be a fallacious one, for with an engineer in good practice nearly every week brings him a fresh fact to startle him as to what evils may be silently working, mole-like, underground, and sapping the health of the too trustful ones. Too much can scarcely ever be said regarding the danger of permitting old cesspools and brick drains to remain inside a house, and of the propriety of even searching for them, if the house be an old one, the very moment that the first smell is manifest, or when the first rat crosses the Rubicon. I look upon the sewer rat as really a beneficent animal, sent by Providence to warn us of the possibility of sewer-gas eruptions. He is to cleanliness in the drain what the *Cimix lectularius* is to cleanliness in the bed, a sort of moral *gendarme* flying in the face of danger even to bid you be wise in time. And just as I would search for old cesspools and brick drains, and abolish them, so would I get rid of all the filthy places in and about the stable-yard, the garden, and even the kitchen offices, and replace them with earth contrivances of automatic action.

I never look upon the word trap in a book, or see one, but I am reminded of the deceptive character of the article. We must have traps, I know very well, but we do not require many save in the streets, at the gullies, or just before the house-drain enters the main-drain, the sewer, or the cesspool. We try to cut off all connexion with the sealed drain by the insertion of an article not much larger than an old-fashioned watch, and with a water seal hardly thicker than its silver back, and believe we can resist the influence of gases generated in about, say, ten miles of sewer, and seeking an entrance into the rarefied atmosphere of the house. The idea is monstrous, and ought to have needed no Dr. Fergus to have laboriously ridiculed it. The best trap is the syphon-trap, when it is a syphon, but I have seen so very many imperfect syphons, both in earthenware and lead, that I would almost insist upon having a worshipful order of syphons, in order to obtain a hall-mark upon them, and so be certain that they really trapped. I took out of a mansion the other day in Lincolnshire a leaden bend supposed to trap, and which a plumber had not long put in, and I characterise its condition and beauty of shape sufficiently when I say that it is now in the museum of the establishment, and duly labelled.

I am almost forgetting our imaginary house, but we will see the state of our waste deliveries. Does the cistern overflow deliver into the soil-pipe?—cut it. Does the bath waste so deliver? cut that off. So do the sinks of the housemaids', butler's, and housekeeper's rooms so deliver, cut them off also. Let nothing go into the drain direct, and disconnect in every direction. But what is disconnexion? Well, if you take the cistern waste-pipe out of the soil-pipe, or out of the rainwater-pipe connected with the drain, and allow the cistern waste to deliver in the face of day upon the roof, or the pavement below, that is disconnexion. If you find that the waste-pipe of the lead safe under the watercloset goes into the soil-pipe, and thousands do, or into the D trap, and if you make a simple hole in the wall, and put the lead waste-pipe through it, you have disconnected such lead closet safe. In like manner, if the kitchen or scullery sink runs direct into the drain, trapped or otherwise, and if you lead the waste out through the wall, and cause it to deliver in the open air over a grease-trap, or just under a ventilating grid, that kitchen waste has been disconnected. Formerly it was deemed sufficient to interpose a small body of water between the inside of the house and the drain, but now, in place of this, we interpose an open-air space between the trapping water in the drain and the ends of the wastes outside the house. The rule is now to allow a current of fresh air freely to travel from the disconnecting tanks up the soil-pipes, and so out at the roof, the constant action being maintained by the adoption of a foul-air withdrawing cowl. Instead of the house-drains containing pent-up gases and foul air, they are now made into highways for fresh air, and the difference in favour of health is self-evident. No matter what pattern of closet be used,—hopper, pan, or valve, the latter with or without D traps, if this disconnexion be carried out with the soil-pipe,—and Mr. Field was, I believe, the first to venture upon so bold a course,—if there be a momentary exposure of the wastes, from that moment of exposure the house is safe. Between the foot or two of exposure and the larger drain, the sewer or the cesspool, can be put a syphon, and nothing will force that, or if gas does so on any one occasion, it will simply rise out of the disconnecting chamber, up through the grating, and be harmlessly dispersed in the open air.

Lord Byron bade his readers of "Childe Harold" farewell on the banks of the ocean, and the idea was in keeping with the high sustained character of the poem. In like manner I will bid my hearers adieu at the edge of the dust-bin, that microcosm of good and macrocosm of evil. How many fevers have been traced to that sarcophagus-looking box, to that mausoleum-looking tomb under the area steps, or in the vault of the close back yard? I think the only cure is for the authorities to forbid the mixing together of the kitchen refuse,—and this may mean anything, from the lungs of a hare to the stalk of a lettuce,—and the dust proper, that is, the ashes and house sweepings. I would also forbid the placing of the dust-bin below the floor level. Your time will not permit me to say more at present, but I have indicated, I hope, some of the chief reasons why houses prove unhealthy, and with your leave will revert to others on some future occasion.

A NEW VESTRY HALL FOR PENGE.

The Vestry of Penge have hitherto been without a public hall or offices, and up to the present time the business of the vestry has been conducted in a private house. This unsatisfactory state of things has led to much inconvenience, which is about to be remedied. At their meeting last week, the Vestry decided upon the erection of a new vestry-hall within the parish, and the preliminary steps for effecting this object were taken. The Vestry resolved, with the sanction of the Local Government Board, to put in force the Act passed to prevent the holding of vestry meetings in churches or private places, and the erection of a new vestry-hall having also been agreed upon, a committee was appointed to further the undertaking by purchasing land; and it was further determined that an application should be made to the Local Government Board for permission to borrow a sufficient sum of money for carrying out the undertaking. The question of appointing an architect was next considered, the name of Mr. Elkington, a member of the vestry, and the gentleman who designed the Lewisham vestry-hall, being mentioned. It appeared that Mr. Elkington had tendered his resignation as a member of the board, which the Vestry having accepted, the chairman observed that it was necessary to have the advice of an able architect to assist in the first as well as in the more advanced steps of action in the matter, and suggested the name of Mr. Elkington as that of a gentleman on whom they could fully rely for judgment and ability to advise them on the subject, and by whose assistance they would be sure to have erected a handsome and commodious vestry-hall. Mr. Elkington, after some discussion, was appointed the architect. The estimated cost of the intended new building is 5,500*l*.

THE THAMES TOLL BRIDGES BILL.

The Bill for freeing the bridges across the Thames came before a second committee of the House of Commons last week, the House having referred its further consideration to another committee, other than that before whom evidence had already been taken. The petitioners (who appeared by their counsel or agents) against the Bill were the Corporation of London, the Metropolitan Board of Works, the Board of Works for the Greenwich district, the South-Eastern Railway Company, and the Vauxhall Bridge Company. Mr. Blyth, the solicitor in favour of the Bill; Mr. Fowler, Mr. Mitchell, Mr. Gunn, and other gentlemen who gave evidence in favour of the Bill before the select committee, were in attendance for further examination, if required. Sir Edmund Beckett, who appeared for the Corporation, asked the committee not to proceed with the Bill, inasmuch as it had been altered since its introduction to the House, but this objection was overruled by the chairman, and the committee decided to hear evidence and the arguments of counsel, the Corporation having withdrawn their opposition for the present, in consequence of the decision of the committee. After considerable discussion, and the arguments of the several counsel, together with some additional evidence, not given before the former committee, the committee unanimously passed the preamble of the Bill, and at a further sitting the clauses were agreed upon.

The Government Prison Bill.—The Howard Association have passed a resolution that "The committee of the Howard Association regard with much satisfaction the new Prison Bill introduced into Parliament by the Home Secretary, as tending to effect, or facilitate, some important improvements which this Association has for years been actively advocating. In particular, they hope that its provision for a large reduction in the number of unnecessary gaols will receive the cordial and early support of both Houses of the Legislature. They would desire that the undue restrictions placed by the Prison Act of 1865 upon varied and profitable gaol industry (limiting prisoners' occupation too much to the treadmill and similar 'work') should be definitely repealed." The daily average of prisoners in England and Wales is 18,500 in the county and borough gaols, and 8,500 in the convict prisons; a total of 27,000 to a population of 24 millions. Hence there is only about one prisoner to every 1,000 free men. Consequently the competition of prison industry with free labour is, and must be, almost infinitesimal, with any moderate distribution of trades amongst the prisoners.

CHOIR OF EXETER CATHEDRAL.

The restored choir of the Cathedral Church of St. Peter, Exeter, has been opened. The work has been in progress between four and five years. Now that the choir has been finished, the nave will have its turn. The cost of the restoration of the choir is estimated at about 25,000*l*. When the nave is completed, the cost of the restoration of the whole interior will probably amount to 40,000*l*., the extent to which funds are at present forthcoming.

The whole series of stalls is new, excepting the ancient misereres, whose quaint style and excellent workmanship marked them out as worthy of embodiment in the new design. Of these new stalls we gave an illustration in our volume for last year.* When an opportunity occurs, we will go through the cathedral.

It may be as well to mention, in a few words, the general work of the restoration, and those who have been instrumental in carrying it out. The whole of the restoration, as our readers are well aware, has been carried out from the designs and under the instructions of Sir Gilbert Scott. Under Sir Gilbert, for a considerable period, Mr. Snellgrove superintended the work; but for some time past Mr. E. G. S. Luscombe has had the charge. The whole of the restoration work generally, the new pulpit, the restoring of the bishop's throne, and a portion of the new woodwork, have been done by Mr. Edwin Luscombe, of Exeter. The new stalls erected have been provided by Messrs. Farmer & Brindley, of London. The painting and stained-glass windows have been done by Messrs. Clayton & Bell; the lighting arrangements and altar-rails by Messrs. Hart & Peard, of London; the brass choir-desks, pulpit-railing, metal gates, and grilles, by Mr. Leaver, of Maidenhead; and the organ by Mr. Henry Speechley, of London.

HASTINGS BATHS.

At the suggestion of Mr. Alderman Howell, plans were prepared for Public Baths and Aquarium adjacent to the sea-wall, Hastings. The design by Messrs. Jeffery & Skiller and Cross & Wells, local firms of architects, was selected, and here for a time the matter stopped. Then the Mayor called a public meeting, and the result was that the Public Baths and Aquarium Company was formed. Eventually the White Rock site was secured, the company undertaking to erect a sea-wall, and to give up the roof of the building as a public parade, in return for which the Council were to pay them 1,500*l*. Another delay was caused through the usual routine of red tapeism in connexion with the office of Woods and Forests, but everything being at length settled satisfactorily, tenders were issued for the erection of the building, and the contract of Mr. Adcock, of Dover, at 27,000*l*., was accepted. Some misunderstanding seems to have arisen between Mr. Adcock and the directors of the company as to his liability, and failing to arrive at an amicable settlement, he threw the contract up. The directors,—not wishing to delay the works,—held a meeting at which it was decided that they should carry out the work themselves under the direction of the architects, and that decision was approved of. Another question which arose was whether the aquarium could be carried out on a remunerative scale; all admitted the necessity of the baths, but there were many who did not see the need of an aquarium. The decision arrived at, therefore, to proceed with the baths and leave the aquarium an open question for the present was universally admitted to be a wise one. The designs now consequently embrace the baths only, though, of course, the sea-wall must be completed. The baths will be placed on the western portion of the site, and the entrance from the parade will be by a double flight of steps leading to an open portico. Right and left of the ticket-office will be the entrances to the ladies' and gentlemen's swimming-baths, and on the other side of the large open area will be placed the first-class private baths,—eight in number,—for ladies and gentlemen, each consisting of a bath-room with dressing-room and water-closet attached. A spacious corridor forms the approach to the gentlemen's swimming-baths, which has an area of water 100 ft. by 40 ft. The dimensions of the bath used by the ladies are 56 ft. by 26 ft. A cold fresh and salt water shower-bath will be provided at the end of each bath. To make the bathing establishment complete, a small Turkish

* Vol. xxxiii., p. 975.

bath will be attached. A large room, 65 ft. by 30 ft., with refreshment department, will be placed beyond the baths, and this would admirably answer the purpose of a reading or concert room.

Already the works are in operation. Mr. L. Dillon, a gentleman who has experience in hydraulic works, is superintending the erection. His foreman is Mr. Gambling, who was for a long time employed in the construction of the concrete blocks at Rye Harbour, and in laying them in the wall which forms Dover Harbour. Concrete will be the chief material employed in the construction of the building. During favourable weather the foundation blocks will be formed on the exact site of the wall. The smaller blocks will be moulded on the platform prepared for the purpose in the enclosure, and when they have to be fixed in position in the wall they will be bedded and bonded in Medina cement. On Wednesday in last week the first block of the building was laid by Mr. Brassey. A massive block of concrete, 21 yards cube, was placed in position on the rock 5 ft. below the surface of the beach, and above this the memorial block, weighing six tons, was suspended.

SURVEYORSHIP ITEMS.

Caerleon.—Mr. William Harris has resigned his office as surveyor to the Caerleon Highway Board. He concludes a letter to the *Hereford Times* by saying,—"I leave it to the public to judge whether a surveyor of over eleven years' standing, who has always given general satisfaction, should be called upon (in the absence of any complaint) to render a monthly account to each waywarden of the district, of how and where his whole time is spent each day. I feel confident that the course I have taken in resigning rather than carry out such a motion will meet with general approval."

Gillingham.—Mr. W. Tozer has been appointed surveyor and inspector of nuisances to the Gillingham Urban Sanitary Authority.

Hove.—At a special meeting of the Hove Commissioners, on the 1st inst., Mr. E. B. Ellice-Clark (now of Derby, and late of Ramsgate) was elected surveyor for the town and district of Hove, at a salary of 400*l.* per annum, subject to his devoting the whole of his time to the duties of his office. There were 100 candidates, the final choice being confined to three, viz., Mr. A. M. Hiscocks, Mr. Clement Dunscombe, and Mr. Ellice-Clark, the successful candidate.

Lincoln.—For the office of city surveyor of Lincoln there were forty applicants, and at a recent meeting of the Town Council six were selected, and requested to personally attend another meeting of the council, held on the 27th ult. At this meeting Mr. J. J. Henderson, of Leeds, was elected by a large majority.

Long Eaton.—Mr. W. B. Redgway has been appointed surveyor and inspector of nuisances to the Long Eaton Urban Sanitary Authority, *vice* Whittaker, resigned.

Newcastle-under-Lyme. — Mr. J. T. Eayers has been appointed surveyor to the Newcastle-under-Lyme Urban Sanitary Authority.

Newcastle-on-Tyne.—Mr. Lamb, the property surveyor of the Newcastle Town Council, having resigned, the Town Council has accepted the following recommendations of the Finance and Town Improvement Committees, viz.,—"That the whole management of the duties attached to the offices of property surveyor and borough engineer and town surveyor be placed under one competent person as the head; and that the salary be fixed at 1,000*l.* per annum, and that eventually such officer shall have power, subject to the consent of the respective committees, to engage and discharge subordinate officers and clerks. That the proposed arrangements do not apply to the present borough engineer and town surveyor [Mr. Fulton], whose continuance in office shall remain with the council."

Reigate.—At a recent meeting of the Reigate Town Council, Alderman Field, in the absence of Mr. Alderman Thornton, who had placed the motion on the agenda, moved,—"That in consideration of the extraordinary services rendered by the surveyor this year, and the great zeal and efficiency shown by him, by which the corporation has been materially benefited, his salary for the year be increased by a prompt payment of 100 guineas." A general feeling was expressed that the surveyor had well earned this gratuity, and the resolution on being put was carried.

Salisbury.—At the last meeting of the Salisbury District Highway Board, a discussion took place on the conduct of the surveyor, Mr. Whinnerah. It was alleged he had expended a sum exceeding 5*l.* in materials without the consent of the Board. A vote of want of confidence in him was, however, lost by a majority of twenty votes to sixteen. Then arose the question whether Mr. Whinnerah should be censured for expending more than 5*l.* at one time without the order of the Board. Mr. Read moved an affirmative resolution, which was seconded by Mr. Marsh. Mr. Crook, who spoke strongly in Mr. Whinnerah's favour, moved a direct negative, and was seconded by Mr. Street. On a division, Mr. Read's motion was carried by a majority of twenty to nine.

Warrington.—The Warrington Town Council have, on the recommendation of the General Purposes Committee, resolved to increase the salary of Mr. R. Vawser, the borough surveyor, by 100*l.* per annum, *i.e.*, from 330*l.* to 430*l.* In addition to his salary Mr. Vawser is allowed two per cent. on "quantities" taken out for works under his direction. He is also provided with an office, and is allowed private practice beyond the limits of the borough.

Warwick.—Mr. G. Lewis, assistant surveyor to the vestry of St. Pancras, has been appointed surveyor to the borough of Warwick, *vice* Pritchard, resigned.

Wednesbury.—At the fortnightly meeting of the Wednesbury Local Board, held on the 26th ult., it was resolved,—"That, in view of the increased size and importance of the town, it is expedient that a committee of the whole Board should take into consideration the present administration of the office of surveyor, in order to make such arrangements as shall enable the gentleman filling that office to devote his whole time to the duties thereof."

Weymouth. — Mr. Seaman, the late borough surveyor of Weymouth, has received a letter from the clerk of the Local Board of Health, informing him that at a recent meeting of the Board it was resolved,—"That Mr. Seaman, having sent in his resignation as surveyor to this Board after a service of many years, this Board, desires to express to him their great satisfaction at the admirable way and faithful and honest manner in which he always discharged the onerous duties of his office whilst in their employ, and wish him every happiness in his retirement into private life."

ARCHITECTURAL ASSOCIATION.

THE last meeting of this Association for the present session was held on Friday, the 30th ult., the president, Mr. John S. Quilter, in the chair.

Mr. John Douglas, of Chester, was elected a member. Mr. Pownall, the librarian, announced that Mr. Bedford Lemere had presented the Association with a series of photographs of specimens in the Architectural Museum. The best thanks of the Association were accorded to the donor.

Messrs. Francis and Maclachlan, jun., the scrutineers appointed to examine the voting-papers, reported that the following gentlemen had been elected office-bearers in the Association for session 1876–77, viz.:—

President.—Mr. Henry Cowell Boyes.

Vice-Presidents.—Messrs. S. Flint Clarkson and W. W. Robertson.

Members of Committee.—Messrs. T. W. Cutler, E. B. Ferrey, H. L. Florence, R. M. Marnock, B. A. Paice, J. S. Quilter, W. L. Spiers, H. H. Stannus, J. Sulman, and C. G. Vinall.

Treasurer.—Mr. J. Douglass Mathews.

Librarian.—Mr. R. E. Pownall.

Secretaries.—Messrs. Edward G. Hayes and Aston Webb.

Solicitor.—Mr. Francis Truefitt.

Assistant Librarians.—Messrs. H. W. Pratt and V. Trubshawe.

Auditors.—Messrs. A. Conder and R. C. James.

Registrar.—Mr. T. H. Watson.

Collector.—Mr. Alfred Hill.

Thanks were given to the president and secretaries for the past year.

Mr. Thomas Blashill read a paper on "The Architect and the Pupil," and this we print *in extenso* on p. 667.

Divergent Estimates.—The *Metropolitan* states that a survey of the borough of Oldham being required, the Town Council prepared a specification, and asked for tenders. Several were sent in accordingly, and they varied from 750*l.* to 12,450. No tender was accepted.

THE VOTIVE CHURCH, VIENNA.

THE Church of the "Messiah," more commonly known as the "Votiv Kirche," erected by public subscription to commemorate the marvellous escape of the Emperor of Austria from assassination on the 18th of February, 1853, will, when completed, be one of the most beautiful specimens of Gothic architecture executed in modern times. The plan after which it has been built was designed by Herrn H. Ferstel, architect, of Vienna, in 1854, and chosen out of seventy-two designs, sent in answer to an invitation from the general committee; but it was not until 1856 that the work was actually commenced. As will be seen from the ground-plan, which we shall give on another occasion, the building consists of a nave and two side aisles, the latter continued round the chancel as choir gallery, communicating with seven small chapels, and of a transept, with four corner chapels abutting on it.

The principal façade, facing the Ringstrasse, is crowned by two elegant octagonal spires. Underneath is the main entrance to the nave, with separate portals to the two side aisles. A smaller spire, constructed in iron and sheeted with lead, marks the point of intersection of the nave and transept. Projecting portals form the entrances to the transept at both ends, leading through vestibules into the body of the church. The polygonal chancel forms seven sides of a regular dodecagon, and above it is an oratorium in form of a triforium, which, together with the choir gallery, attains the same height as the roof of the side aisles.

The best ecclesiastical Gothic of the period, between the thirteenth and the middle of the fourteenth centuries, was chosen as the standard by which to work, and has been adhered to as strictly as the small dimensions of the building permitted. The minute elaborations of a more florid style have been obliged to give place to simpler details for want of space; but so thoroughly has the original conception been carried out, that the statuary adornment of the exterior is founded on the same typological sculptural period as that of the architecture of the rest of the building. The principal front contains a representation, carved in marble, of the "Mystery of the Redemption," while the "Creation" and "Sanctification" severally adorn the right and left façades. But it is on the interior that the greatest amount of time and adornment has been spent. The carvings and mouldings of the pillars and capitals are studied from those of the cathedral at Cologne, and the elaborations of the altar-piece and pulpit, which promise to be richer than anything of their sort yet accomplished, will probably delay the opening of the church until 1877.

The leading dimensions are as follow:—Greatest length, 292 ft. English; greatest span, 94 ft. 6 in.; span of nave, 37 ft. 6 in.; height to ceiling of nave, 93 ft. 3 in.; height of spires, 325 ft. The building was commenced in 1856, and the whole completed to the height of the ceiling of the side aisles in 1862. The two spires and nave to its full height in 1864. The former to the height of the main roof in 1865, and the last stone of both spires in 1868. The nave, transept, and chancel were not finished until 1871, nor the roofing until 1872. Since then the entire energy has been concentrated on the internal decorations, and the erection of statues in the niches of the exterior of the building. The stone is throughout hard sandstone; the roof, of iron construction, that of the nave being covered with slates of two colours, and those of the aisles with lead. The total cost when completed will amount to 374,850*l.*, and the result will be a grand monument to commemorate a national thanksgiving for the preservation of a sovereign. Some years ago we gave some particulars of the undertaking, and a small view, but the importance of the building justifies us in publishing a more complete representation of it.

Alcester Water Supply.—On the 21st ult. Mr. Samuel Smith, C.E., inspector under the Local Government Board, held an inquiry at the Town-hall Alcester, into the proposal of the Alcester Rural Sanitary Authority to constitute a portion of the parish of Alcester a special drainage district, under the Public Health Act, 1875, for the purpose of constructing works of water supply, at a cost of 3,035*l.*, in accordance with plans prepared by Mr. Edward Pritchard, C.E., of Warwick. The inquiry was somewhat stormy.

THE VOTIVE CHURCH, VIENNA.—Herrn H. Ferstel, Architect.

THE ARCHITECT AND THE PUPIL.

ARCHITECTURAL ASSOCIATION.*

IN the many discussions that have arisen in recent years on the question of architectural education, the system of pupilage, which lies at the very root of the matter, seems to have received less attention than it deserves. Very much has been said upon "the arts accessorial to architecture," and it seems to be assumed that, while a certain class of subjects, all more or less useful to the architect, and all pleasant to know, can be taught to the pupil, he must pick up as much of the art of architecture as he can, mainly by his own observation and industry. Starting from the idea that this art cannot be taught, it is but one step to the idea that the system of pupilage ought to be discontinued, and that, contrary to the rule which obtains in other departments of industry, from the humblest trade upwards, the young architect of the future will prepare himself for practice without the preliminary training which an architect's office can give. But besides this theoretical notion, there is a solid basis of dissatisfaction with the actual working of the pupilage system. The architect complains that he gets no useful work from his pupils, and that they expect to be *taught* like schoolboys,—a duty which he cannot undertake. The pupil complains that he is turned down in the office, in an anomalous position, to pick up what he can. The paid assistant just tolerates him, at the best. If not actually jealous of him, he finds it easier to get through his work alone than to have the help of one on whom he can never depend. Perhaps all parties are best satisfied, for the time, if the architect is so unselfish as to place his pupils quite apart, and occupy them solely with copying old examples and model drawings of buildings specially prepared for their use. But whatever mode may be adopted, there is certainly a growing opinion amongst persons of experience that, as a rule, the pupil in architecture leaves his office at the end of his term less finished in training, less mature as to his powers, less useful to others, and therefore less able to get a living, than the pupils of other professions. If this view is correct, as I think it is to some extent, it is clear that it points to something wrong in the system of training; for the profession of architecture, however difficult it may be to acquire and to practise, it is certainly not more so than other professions. Pupils come to it with the same powers of mind, with the same objects, and I think with even more desire towards it on their own parts, for it is not one which a youth is likely to be urged to adopt against his will. Finally, I believe the articles by which the pupil is bound are not materially different from those in general use. I propose, therefore, with the view of introducing this subject to the serious attention of all whom it may concern, to notice the relationship created by articles between the several parties to them, the duties of the architect and the pupil, and a few other matters bearing upon this subject.

The question, "What is an architect?" may seem too simple for us to consider here; but, as it is sometimes thought to involve a great deal of debatable matter, it may be well to come to an understanding about it. Practically, at the present day, an architect is one who designs buildings in all their detail upon the instructions of his clients, and generally with certain limits as to cost; he makes arrangements with builders for the execution of the work by contract or otherwise; he is entrusted with the supervision of the works and of the accounts, and with certain powers of arbitration between client and contractor. It is sometimes said,—as if we were in an exceptional position,—that anybody may call himself an architect. You will, perhaps, be surprised to find that we are in a position not materially different, in that respect, from the members of other professions. Any one can call himself a doctor, or a lawyer, or a clergyman, or anything else, and, except in a very few points, specially provided for, he may do work and receive pay in all those capacities. What he cannot do with impunity, unless authorised, is to call himself a fellow or a member of certain societies, a solicitor, or the holder of certain positions in the Church of England. Besides this, he may, by particular enactments, be unable to recover his fees or charges if not paid when his services were rendered. People in general go to the "regular practitioner," not because they are compelled to choose him by any exclusive privileges, but because they see reason to place confidence in persons of his class, and not in persons outside that class. What is enough protection for persons belonging to the professions that have become more "close" than ours is probably enough for us. You will, therefore, understand that if I advocate the system of architectural privilege it is not from any idea that it ought to be compulsory, but because I believe it to be the best, and, indeed, the only means generally available for the education of the young architect. The system involves three distinct parties, all of whom have their special views and interests,—"the parent or guardian," the pupil, and the architect in practice.

Of these the architect appears to me to have the least interest in the continuance of a system by which he becomes bound, for a consideration usually very moderate, to train for five years a youth who may be troublesome to him, and, unless exceptionally intelligent, docile, and industrious, will not be of very great use. Indeed, the more seriously the architect thinks of his responsibilities, the less he will be inclined to enter into them. If at all selfish he may reckon, amongst other contingencies, the possibility of the pupil becoming in a few years his rival, and, on the whole, I do not see that one in active practice can be compensated for his trouble, unless he gains the intelligent, energetic, and confidential help of the pupil during the later years of the term.

As to the object which the youth has in becoming a pupil, we may believe that, in general, he has acquired a liking for the art (or what he supposes to be the art) of architecture, and is favourably disposed to fall in with any system that appeals to his good sense, and is not too irksome. But there is a third party to the bargain, whose views and objects are entitled to a good deal more attention than they often receive,—the "parent or guardian," who pays the premium, and consents that the youth shall up to, and perhaps beyond, the age of manhood, be clothed and maintained while he earns nothing for himself. His object is not that the youth should become a clever sketcher, nor a sound archæologist, nor that he should pick up a little of everything, and get into a gentlemanly profession, but that he shall in due time acquire a profession *by which he can live*. No doubt he assumes that it is to be a very honourable calling, worthy the highest powers of the mind; but still neither the parent, nor, indeed, the youth himself, would enter into the arrangement, if it were put to them that on arriving at the age when other men are getting on comfortably, the pupil would, probably, be still poor and dependent. Such being the views of the several parties, let us look at the document which expresses the contract between them, and which they are all supposed to read. In consideration of certain payments (though if there were no payment to the architect, or even if the payment went the other way, I see no difference in the obligation), the architect covenants to take and accept the youth as his clerk and pupil, and by the best means he may or can, and to the utmost of his skill and knowledge, teach and instruct him, or cause him to be taught and instructed, in the practice and profession of an architect, "in such manner as the said architect now doth, or at any time hereafter during the said term, shall use and practise the same." Observe the distinct way in which the mode of teaching is laid down. He is not to be taught any number of things "accessorial," but he is to be taught the thing itself, as his master uses and practises it. This, in fact, does but describe the essential principle of the teaching that has prevailed in all ordinary kinds of business in all times. There are countries in which a man's trade or "caste" is fixed for him by the accident of his birth. In this country the profession of agriculture is almost exclusively confined to those who are themselves the sons of farmers, and have been all their lives daily working in the business, and very few besides these persons succeed in it. Where the choice of a calling is free, the first thing a parent thinks of is to place his son, who has chosen his line of life, with some person who "himself uses and practises the same." The practitioner himself is inclined to look with some distrust on any man who enters his profession without serving some sort of apprenticeship to it, and this not merely from the vulgar selfishness of trade-unionism, but from the common idea that a man cannot be competent unless he has been apprenticed. In fact, it is only in recent times that a man could ever make a decent show of belonging to any particular trade unless he had passed this routine. The trade secrets were locked up in the trade, and it was not only the practice of it, but the knowledge of every detail belonging to it, that the apprentice had to acquire. From various causes, of which the arts of printing and engraving are the chief, there is hardly any trade now with which any man may not acquire acquaintance enough to enable him to make a show of understanding it, and a man of acuteness may even get to know enough about it to puzzle in conversation the ordinary practitioner of it. This brings us to a question which it is worth while to consider at some length, because it is of importance to distinguish between the class of subjects which can be learned in this way, and subjects of another class which cannot be so learned. I am going to ask you to distinguish them in your own minds as *matters of science* and *matters of art*.

In ordinary dictionaries the word "art" is said to mean—amongst other things—"science," and science is put down as meaning "art." This shows that there is a loose way of using the two words. Science, as we find the word used by persons who wish to attach a distinct meaning to it, represents "knowledge reduced to a system," not that the system can make much difference to the thing, but because it is often convenient to be able to distinguish between the knowledge possessed by persons who have been systematically taught, or have investigated special matters that are obscure, from the common knowledge picked up by ordinary people. Still science is knowledge, of whatever kind, and however acquired, much of that which is possessed only by the trained and learned man of one generation becoming in the next the common property of all. Now art must be understood as meaning something quite distinct from this. It is "skill" in the employment of one's powers, and in the application of one's knowledge to whatever matters we have in hand. It is of no consequence that many "artists" have their own special way of using the word, reserving it perhaps exclusively for their own kind of work, calling their art "high" to distinguish it from all others, perhaps contemptuous of other folk who are using similar powers of mind and body in the application of other branches of science to other objects. Doing a thing artistically, as I understand it, means doing it with clear insight and with skill, whether the thing to be done involves labour mainly physical or mainly intellectual, and to whatever objects the mind and hand are applied.

One would have thought that these things were tolerably clear; yet if we ask some of our friends for a short distinction between the two professions of engineering and architecture, they will say the first is a "science" and the second is an "art." Now the truth is that one requires the possession of a large amount of a peculiar class of knowledge carefully systematised, while the other requires rather less of this kind of knowledge or science. But the possession of all the engineering science in the world would not make a man an engineer without practical skill, nor would all the fancy and all the readiness with the pencil that are possible make a man an architect without the possession of such knowledge, systematic and common, as belongs to his branch of human industry.

In a paper read lately on engineering, the very able and thoughtful writer began by saying that his subject was entirely practical and utilitarian, and he would not go into questions of "art." I should have thought it impossible to make such a division; for either part must involve the other, and that the writer's distinction of the beautification of building construction from construction itself, was one the justification of which we had better leave to folks who attempt to carry out one without the other. It is, however, impossible to go further into this question now; it is one with which other professions have to deal for themselves. The medical profession has settled it by dropping the use of the word art. They distinguish the two departments of knowledge and skill as the "scientific" and "practical," and if we call them the "scientific" and the "artistic," we shall be able to distinguish between things which can only be acquired by something of the nature of pupilage, and those things which can be better acquired in other ways.

Anciently, all kinds of instruction were acquired in the workshop or office, because they could be acquired in no other place. The science was got by some little teaching, but more by

* By Mr. Thomas Blashill. Read at a meeting on June 30.

daily conversation over the work and by experience acquired in the work,—perhaps, also by some old book; the art was, of course, acquired by daily practice at the work. Now a very large part of the science-teaching can be got a great deal better elsewhere. It is taught in special schools, in classes, and by books, illustrated, where the subject demands it. As to such matters as geometry, arithmetic, and the higher mathematics, if the pupil has not got them at school, he makes up his deficiencies later in life, out of office hours. Draughtsmanship, beyond the plain outline and distinctive colouring required for plans, sections, and elevations, can be much better taught in classes than in the office. Even as to the art of perspective, remembering that it was never found necessary in the best periods of architecture, still it is easy of acquisition, and any youth must be dull who cannot make himself tolerably proficient without troubling the architect or the assistants in his office to teach it to him. Then there is the great subject of archæology, which circumstances have forced into such prominence in modern days in architectural education and practice. I say that the whole subject, from "the five orders" to the latest developments of Mediæval architecture, can be best studied in classes, by joining societies, by books and otherwise, independently of office training. By privately studying this subject the young architect may get a full knowledge of it, and not that partial acquaintance with it which prejudices him in favour of one or another style; so that the same person becomes an enthusiastic admirer of Greek or Gothic, not from any merits of these styles, nor from any taste of his own, but from the accident of his position in one kind of office or another. With regard to such matters as the chemical constitution of building materials, the effects of their combination, their strength and durability, the question of ventilation and warming of buildings, and their drainage, all these matters are best acquired from books or by classes, and cannot be regularly or fully taught in the ordinary routine of an office. But as to all these, and many more which I might mention, if you were to acquire them perfectly, though they would be useful in many positions of life,—though there is hardly any person, however high, whom such knowledge would not adorn,—there is no particular reason why a man should call himself an architect because he has pursued such studies. At the best he is but just ready to begin to apply himself to that or some other useful calling.

The only thing that can make a man so trained into an architect—the thing that is wanting to him—is the practical performance of architectural work. That is the only reason why a youth goes into an architect's office, and the need for his going there arises from the fact that it is the only place where such work can really be seen and done. It is there only that there are real clients to satisfy, real builders to deal with, real difficulties to contend with and to overcome. The reason why the medical profession has practically abandoned the pupilage system, and has substituted teaching in hospitals and medical schools, is the same reason why we shall retain the old system and not adopt a new one. The medical pupil could only study and practise his art imperfectly in the surgery, and it was found that when not only books, but actual subjects for study and practice were accumulated within the walls of a hospital, the pupil naturally went after them, and there he will remain. For it is only at the hospital that the pupil can see accidents and diseases in all their varieties; can see how they are treated, and watch their progress from day to day. It is there that he has opportunities, by dissection and otherwise, to acquire skill of hand in performing operations on the body, and ultimately he has the more responsible duty of watching cases, and using considerable judgment and discretion, according to the changes in the patient's condition. Now all these things differ from the parallel teaching in the best school or college that might attempt to teach the art of architecture. They are no fancy subjects set for the exercise of the pupil's mind; they are the very things which he will have to deal with in after life. The young architect can find no such chances of study and practice except in the routine of an architect's office; and this brings us to the closer consideration of the relation between architect and pupil which the articles create.

I have said that the more the architect considers the responsibility of taking a pupil the less he will be inclined to incur it. But if he does undertake it, he is bound to fulfil his duty by teaching his pupil the art of architecture *as he practises it himself*. With the greatest possible respect for those who most unselfishly attempt to train their pupils by such work as copying ancient examples, I submit that the thing which brought them into the office was that they might help to work out modern examples; and it seems to me neither difficult to induce them to do this, nor improper for the architect to benefit by what they do. With regard to those architects who put the pupil into the office without much personal supervision, it appears to me that a very little consideration and pains would make of their system all anybody could expect or desire. Some of my good friends who have had experience talk of the difficulty of making anything of such youths as are met with nowadays. It strikes me that this is the very difficulty that they have undertaken and must grapple with, but one which will be found less as it is fairly encountered. Let us try to remember what we and our companions were at 15, 16, or 17 years of age. There might not be the quickness of perception which belongs to children, nor the anxiety of children to look at people who are working, and to help anybody and everybody, but there was a great deal of youthful energy and quickness left. The severest critic would perhaps wish that such a youth was half as fond of work as he is of play. If he is not, it must be because work is made less interesting than play, and a very great deal less interesting than it might be, for work, or at least *our* work, is not reckoned by grown men as by any means uninteresting. If we consider that the person whom we have undertaken to train is not an overgrown boy, but a young man, we should treat him as such, by giving him work which he will feel to be of some consequence, which he will see can be done well or badly, and which he will be held strictly responsible to do well. The work would, no doubt, be very humble at first; but if a pupil can see the use of it,—how needful it is in the office routine,—how he is gaining facility in handling the ordinary implements,—acquiring confidence, and holding a respectable position,—there are very few youths who will not take a proper interest in their work. My own experience leads me to place very little value on work done merely "for practice"; there is seldom any proper test of its quality. The pupil should, as soon as possible, be put to work—such as tracing,—that will actually remain as an office record, or go out of the office to be worked from; and if his master will occasionally look at it, and insist on such points as exactness in copying, clearness of line, distinct legibility of lettering and figuring, and general neatness, he will be appealing to the common sense of the pupil, and forming habits which will be of the greatest utility to both alike.

As soon as possible the pupil should go on works, even if no one has time to tell him anything while there; but a youth of any sharpness can be well utilised in writing down notes from dictation, or in taking messages: if he is merely sent to look on without any particular object, he will look on and come back just as wise as he went. He ought to copy the business documents of the office, and a few questions will show whether he understands them. On suitable occasions he ought to be present at business interviews, and be encouraged to form his own opinion of matters in dispute. As he grows up he will have to make out drawings from rough sketches, and if the architect's sketches are sometimes very rough, it will be a good opportunity for seeing whether he puts down windows and fireplaces in reasonable positions when they are indistinctly shown or forgotten in the sketch. He will, of course, have learnt duodecimals at school: he will occasionally have to take dimensions from drawings or on works; enter them properly, and square them up. He ought very soon to be able to go on works, see what kind of materials are being used, and be a fair judge of ordinary foundations, bricks, sand, and workmanship; and, before his pupilage is over, he ought certainly to be able to write a common specification,—a thing that several men of twenty-five years of age have told me they never did in their lives. I say nothing of the "arts accessorial to architecture"; they are not what the pupil came to the office for; but he should have advice as to these matters, and facilities for studying them at fixed times, so that when at work on the office business he may be quite depended on,—as much so, in fact, as a paid assistant,—for I contend that the only way to properly train a pupil is to make him work—while he is at work—as steadily as he will have to work later in life. If the office is one where there is not much work going on, it has probably been chosen because of some other advantage that presented itself; and in that case the pupil will probably get some amount of careful teaching to make up for the lack of practical work; but he ought, at any rate, to see all the work that really comes into the office.

Now, as to the pupil. If he has any enterprise, he is probably rather glad to get away from school, and see what the world is like. He has come to the profession of his choice. I need not insist on this point, that it is work for *men*, and quite worth all the attention he can give to it. There may be certain kinds of rough and uninteresting work. The best thing is to get through that work in the early days, for whether as training for the hand or for the mind, it cannot safely be shirked; and the most selfish of architects will hardly keep a clever youth doing the work of an office-boy when he can make much better use of him. He should not despise such work as tracing, for there is no other way of learning how to draw properly at a time when his knowledge of the details of construction is very small. He should, if possible, read every letter that comes in and goes out, and become thoroughly acquainted with the whole of the office business. One of the most useful acquisitions for a young architect is shorthand, not only for his own use, but because, if in the office of a gentleman of eminence, he may at times act as his secretary, and get into the presence of persons whose ways of transacting business are a very interesting and useful study. Not to make these details too wearisome, I will only mention this most essential thing for a pupil to do. He ought, while in articles, to thoroughly *interest* himself in the office business; to form the best opinion he can as to the way in which designs will come out in the execution; how certain lines of conduct in business matters will succeed. He will feel glad when the work is successful; *personally* sorry when there is a want of success, as if it had happened to himself.

When his articles are at an end, he will naturally consider that he is entitled to call himself an architect, whatever other people may be able to do. He will be a young architect, with a great deal more to learn, but so far as he goes, he should be a whole architect, and not a bit of one,—not merely a draughtsman, who can draw ornament or perspective, and nothing else, or merely a surveyor,—unless he finds, as he may very likely do, that this is really his *forte*. And as a comfort to men who find themselves only adapted to one kind of thing, I may mention that one meets very successful men, in many departments, such as surveyors, engravers, engineers, who were trained as architects, and have drifted off in the direction in which their taste or their chance of employment lay.

If the pupil becomes an architectural assistant, as is likely, he will find that, as a rule, he will be put to whatever kind of work best suits his employer. He will have little chance of seeing a variety, of trying his hand on new kinds of work, or in getting out on buildings. It is the more important, therefore, that he should have acquired habits and powers of working well in all the departments of his profession while he has the opportunity of practising himself as a pupil, and the right of getting the chance of such practice.

My subject being limited to matters relating to pupilage, I shall say little upon matters that are common to the pupil and the more advanced student. I need hardly mention the many opportunities which the Association presents for supplementing the duties of the office in the education of the young architect. Our annual volume will tell more of the advantages which have recently been placed at the disposal of students by the Royal Academy, under the superintendence of our good friend Mr. Spiers. For draughtsmanship of a kind, and applied to purposes which are not often met with in ordinary office work, this class offers very great advantages. My own recollection of Royal Academy lectures, many years since, and the reports we now see of them, lead me to think that they most usefully supplement office routine in their sound archæological teaching, while the student has the great advantage of learning from the professors of other branches of art. Of University College, which in my time had the great advantage of Professor Donaldson's labours, and where the work is still carried on

with undiminished usefulness, I would make one observation which may be a hint to students, young and old. Not having travelled in the countries where remains of classical architecture exist, it was not till I came to hear the careful and lifelike descriptions of Professor Donaldson that I formed any idea of the beauty and the reasonableness of the styles on which he was so competent to discourse. Dry descriptions in books are nothing beside the words of one who has seen the remains which he describes and can impress them upon the mind by his vivid description.

Having ventured on a hint or two such as these, I may just give one hint on matters which it may be best to avoid. Many young architects are vastly attracted towards anything that involves minute workmanship, small prettiness, vivid colouring, such as furniture, metal utensils, and crockery. Let me suggest that the art of architecture, though quite within the scope of ordinary men, is rather a large matter to learn in the years devoted to pupilage. It is worth all your attention during that time, while you have many distractions of a social character that cannot be put aside. It is hardly possible that a man who habituates himself to such studies as these can thoroughly master the larger matters of construction, or can fail to be influenced in his architectural designs by the taste acquired by work in these smaller matters. I should think it best for an architect to be content to know rather more of these things than the ordinary public; but as his duties must finish somewhere, to draw the line at the limits of his profession, and leave matters of furnishing to those who are better able to study them.

There really is no time to waste on trivialities, however enticing. The world wants us, if it can get us, with all our mind and all our energy concentrated on the service that we profess to render. If it cannot get these, it will try to do without us, and we may go on making pretty pictures of architectural subjects—castles in the air. It is our business to design and to carry out in every detail all the great works of the world which do not involve those special questions which, by common consent, are handed over to the engineer. I want to urge that we should stick more closely to this work from our earliest youth, even if we have to read less, to sketch less, and generally to lead a less pleasant life, if, indeed, that which I have distinguished as man's work can be otherwise than pleasant to men.

If we may for a moment consider the future of the art of architecture in connexion with this question of pupilage, I may repeat a remark often made by persons of good general culture. They ask,—How is it that while the men of other professions are generally acknowledged to be making advances, and satisfying themselves at least in the progress of their art, the architect is always grumbling, always acknowledging his inability to satisfy himself, or to rival the works of his predecessors? I know nothing that bears the semblance of a reason for this, unless it be that the architect is often so strongly impressed with the importance of everything that bears at all on his work, that he gives himself too little opportunity to study the central—the real—business of his life. When men of fair ability set themselves to do anything, they generally succeed pretty well if they employ suitable means. One feels disheartened to hear, after twenty or thirty years' experience, the same complaints,—the old story of our own deficiencies. By way of beginning at the beginning, I have ventured to make these few suggestions on a subject which, as I have said, is at the very root of the question of architectural progress, whether as respects the individual, the profession, or the art.

ARCHÆOLOGY AT BANBURY AND NEIGHBOURHOOD.

THE Archæological section of the Birmingham and Midland Institute visited Banbury on the 21st ult. The drive through Banbury, past the historic "cross," and past the last century church, which replaced one of the finest churches of Mediæval England, and which required restoration so little that its walls had to be blasted to shake them down, soon led into the pleasant leafy lanes and among the well-tilled fertile fields which cover the great table land where Oxfordshire extends to the Edge-hill range. A pleasant hour was spent at Hanwell. The interior of the church well repaid minute examination: and then the party wandered down a picturesque lane to admire the massive brick tower, now almost the only relic of the great hall of the Spencer family, who occupied Wormleighton and Claverdon in the reign of Henry VII. Another drive along the shady lanes brought the party to Shotteswell Church, where a dozen architectural details were eagerly discussed, and where a great wall-painting of St. Christopher, of the fourteenth century, remaining untouched by time and uninjured by whitewash, attracted great attention as one of the finest examples of the painted walls of our churches five centuries ago. In the absence of the vicar (the Rev. Mr. Pinwell), Mr. J. R. Holliday read a short paper sent by the vicar, who takes a deep interest in the history and condition of his church, describing not only what remained of interest, but the old wall-paintings which had been destroyed, with two exceptions, only a few years ago. Great regret was expressed generally by the visitors that so fine an example as the St. Christopher should be the only relic of the history of purely English art in church decoration, and that the hand of the restorer should have removed so much that could never really be "restored." Taking to the carriages again, the party proceeded to Harley. Here nearly an hour was spent in examining the curious old epitaphs on the gravestones and the details of the architecture of the church. Then Harbon Church, scarcely less interesting, was visited, and at one o'clock the carriages pulled up at the Round House, at Ratley, where Oxfordshire slopes suddenly down into Warwickshire, on the long line of the Edge Hills. Here luncheon was provided. After luncheon, the visitors proceeded along the edge of the cliff, with passing glimpses through the trees and the sunlit plain below, to the finely-placed Warmington Church. Another long drive among some lovely scenery brought the party to Burton Dassett Church, where the vicar explained the most interesting remains of the church. At Fenny Compton tea was provided. After tea the carriages proceeded to Wormleighton, where the grand old house of the Spencers and the richly-carved screen of the church were greatly admired; and soon after eight p.m. the party reached the Fenny Compton station, and left for Birmingham.

LINCOLN DIOCESAN ARCHITECTURAL SOCIETY.

THIS society has just held its annual meeting at Horncastle. The meeting extended over two days, and included excursions to many places of interest in the neighbourhood.

Horncastle Church was described by the Ven. Archdeacon Stow. The church consists of a tower, nave, north and south aisles, north porch, chancel, south aisle, and a chantry chapel and vestry beyond it serving as a north aisle to the chancel. Formerly, its exterior was so much patched with brickwork as to vie in extent with the original stone surface of the fabric, through the decay of the soft sandstone of which it is built; but this has now been substantially restored. The oldest portions are the lower stage of the tower and a small part of the east wall of the chancel, showing that the present church is precisely as long now as it was at first, and that this was of the Early English period. The north and south aisles are Decorated, but almost entirely new; above is a Perpendicular clearstory. The chancel is also of that style, together with its aisles. The chantry chapel, forming a part of the north aisle, is of a slightly higher elevation than the rest, and its embattled parapet is enriched with panelled work; eastward of this the work is entirely modern, and a vestry there now takes the place of an older structure. The remarkable change that has taken place in the exterior of this church since the Society's last visit to Horncastle is most striking. Then the fine old Perpendicular roof of the nave was concealed by a plaster ceiling. There was a gallery at the west end, a gallery over the north aisle, a gallery over the south aisle, and a considerable portion of the remaining space was occupied by a high quadrangular structure, leaving very little room indeed for the accommodation of the parishioners in general. Now all these obstructions are removed. The aisles of the chancel are separated from it by well-carved oak screens, partly of ancient work and partly modern. The east window is modern, and of a Flamboyant character, which neither agrees with the older base mouldings below it without, nor with the Perpendicular work around it, but it has a good effect. It is filled with painted glass, by Heaton, Butler, & Bayne, as a memorial to the late Rev. H. Milner, vicar of Horncastle. In the north, between what was formerly a chantry chapel and the chancel, is a small square ironed aperture, concerning the use of which there has been some doubt, but most probably it only served as a hagioscope. Holles mentions that he saw in the east window of the south aisle of this church, in his day, figures of a saint with a lock and chain, St. Crispin and St. Crispinian with their trade tools, whence it is assumed that this glass was provided by a shoemakers' guild. Besides the east window there are other specimens of painted glass in this church serving as memorials. In the west window of the north aisle is some glass by Preedy, commemorating the late Vicar, the Rev. Robert Giles, and in the corresponding one of the south aisle is another specimen of Messrs. Heaton, Butler, & Bayne's work, and other glass of theirs in the tower lancets. The centre window of the north aisle is by Messrs. Clayton & Bell, commemorating the late Mr. Fred Harwood.

Leaving the church, the party drove by the pretty village of Thornton, through the park of Mr. A. Floyer, on to Martin. The church here occupied the attention of the party for a few minutes. Dedicated to St. Michael, it is celebrated as the church in which Scott, the Bible commentator, was ordained. The Tower on the Moor was driven past, and formed the subject of much comment, and the next halt was made at Kirkstead Abbey, where the Rev. J. Conway Walter gave a short history of the ruin, and the party then moved on to the chapel. After the little building was crowded, the comforting announcement was made that the building was in such a condition that it might possibly fall; the walls were rent in many places, and the roof having but frail support it was liable at any time to come down on the heads of the worshippers. No effort had been made at restoration, and a sum of 1,500*l.* would be required for the purpose. Tattershall church was next reached. The Rev. G. T. Harvey read the Archdeacon's notes on the building. Created by Lord President Cromwell a Collegiate Chapel, it passed at length under the ban of Henry VIII. It is much too large for the population in its neighbourhood, and the chancel, which has been restored, is now used as the parish church. The castle close by it was one of the most interesting objects on the route. Although called a castle, and provided with means of defence, it was probably only built for the purposes of baronial grandeur. It is a fine specimen of rough brickwork. Mr. G. T. Clark delivered an address descriptive of the building. A halt was made here for luncheon, after which a short drive brought the party to Coningsby, where the church, dedicated to St. Michael, was the only object of interest. The fabric, all but the roof, has been restored. An hour's ride from Coningsby, and Haltham was reached. The church contains as objects of interest some ancient screen work, probably intended to separate the chantry chapel. Wood Enderby Church was next reached. Restored about fifteen years since, it now presents but a stone coffin of the thirteenth or fourteenth century, and some minor architectural items, to interest visitors. Scrivelsby was next visited. The church has been restored since the last visit of the Society. It is rich in monuments of the Dymoke family, the hereditary champions of England. A good specimen of ancient screen work stretches across the chancel, and many of the architectural features are of a thoroughly definite character. A short drive brought the party back to Horncastle. The route had ranged over about twenty-three miles.

The evening meeting was held in the Corn Exchange at 8 p.m., the Right Rev. the Lord Bishop of Lincoln presiding. An address of welcome from the inhabitants of Horncastle was read by the vicar, and responded to on behalf of the Society by the Bishop. Mr. W. J. Clarke then read a paper on "Lincoln Castle," and the vicar of Horncastle followed with one on "Horncastle Fair." This brought the first day's proceedings to a close.

The second day's proceedings commenced with a visit to Hameringham. The church, dedicated to All Saints, is of the Early English period, and possesses a good arcade. An iron frame, originally used by the Presbyterian incumbent to regulate the length of his discourses, is now fixed on one side of the pulpit. The building is much dilapidated, and the Bishop expressed the hope that the churchwardens would do all in

their power to make the church more worthy the purpose for which it is intended. Winceby was next reached. The church is new, and dedicated to St. Margaret. Standing at the east end of the church, the party had a view of a portion of the battlefield of Winceby, fought in 1643, between the Royal and Parliamentary armies. After a pleasant drive, the next stop was made at Lusby. The church is Norman, and the exterior presents a Norman tower, and a Norman loop window. It is dedicated to St. Margaret. Hagworthingham welcomed the party with a merry peal. The church is dedicated to the Holy Trinity, and is of the Early English style. The building was restored in 1859. The route next lay past Stopford Mill and Harrington Hall on to Bag Enderby. The church here is dedicated to St. Margaret, and is of the Perpendicular style. It possesses a curiously carved font, and several brasses, among which is one to the memory of Albini de Enderby, who died in 1407. In a window on the south side are the flagellum and knives, arms of Croyland Abbey. Somersby Church is a building of the Perpendicular period, but possessing few objects of interest. There is a good specimen of a churchyard cross on the south side, which towers gracefully from the base. Tetford Church, dedicated to St. Mary, was the next halting-place. It is of the Perpendicular period, and possesses north and south aisles and chancel. Leland says that the Britons fought with the Saxons at Tetford in Lindsey, in the time of Vortimer, the son of Vortigern, and there are, close by, the remains of an earthwork that may have been thrown up by the Saxons on that occasion. Plans for the restoration of the church were exhibited. The architect's estimate is 1,200*l*. After luncheon the visitors proceeded on to Salmonby. The church, dedicated to St. Margaret, is of the Perpendicular period, and has recently been restored. It possesses a memorial window by Clayton & Bell. High Toynton was the last place in the route. The church is dedicated to St. Margaret. A short drive brought the party back to Horncastle again, where the two days' meeting was brought to a conclusion by the annual dinner, which was served at the Bull Hotel.

THE NATIONAL GALLERY.

IN reply to questions by Sir J. Leslie, in the House of Commons, Lord H. Lennox said: As soon as I saw the question of my hon. friend on the Orders of the House, I communicated with Mr. Burton, the Director of the National Gallery, who has furnished me with categorical answers to the questions of my hon. friend. I propose now to read those answers to the House:—

"1. The Director's letter was not written to cause delay in the re-opening of the National Gallery, as no avoidable delay was occurring; but to explain some statements in an article of the *Times* of the 3rd of June, as was distinctly stated in the letter.

2. It is one of the duties of the Director of the National Gallery to go abroad to inspect pictures which he has reason to believe would be eligible for the Gallery, and are for sale, and it was on such an unavoidable mission he was called away towards the end of May last.

3. It may be easily conceived that the problem of arranging on given spaces upwards of 700 pictures of the highest excellence, and by masters of distinction, in such a manner as to do justice to all, to properly fill the spaces, and to produce a satisfactory architectonic effect, is one that requires thought, experiment, and time, and cannot be executed lightly.

4. The obstacle to the successful and immediate prosecution of the work of placing the pictures was the glare of sunshine from parts of the glass roofs. This impediment is now being removed, and no delay whatever has occurred in the hanging."

Sir J. Leslie thereupon gave notice that, as soon as the business of the House would permit, he would move a resolution,—"That, in the opinion of this House, it is not desirable that the National Collection of Pictures should be closed during the months of May, June, and July."

COMPETITIONS.

Wednesbury Free Library.—At the last meeting of the Wednesbury Local Board of Health, the Free Library Committee reported that at their last meeting the plans of Mr. Newman were selected; and it was also agreed that the first premium of 25*l*. be awarded to Mr. Newman, the second of 12*l*. 10*s*. to Messrs. Townshend & Horton, and the third of 5*l*. to Mr. Charles W. Tombs, of Wednesbury.

The Shakspeare Memorial, Stratford-on-Avon.—A meeting of the Council of the Shakspeare Memorial Association was held at the Town-hall, Stratford-on-Avon, on the 1st inst., when it was announced that the Council had finally decided upon the appointment of an architect. The result arrived at is the unanimous choice of the design bearing the motto, "But to the purpose, and so to the venture," and which proved to be the work of Messrs. Dodgshun & Unsworth, of Buckingham-street, Strand, London.

Kensington Vestry-hall.—At the last meeting of the Kensington Vestry, it was resolved to issue advertisements inviting architects to send in competitive plans and designs for this proposed new building. Premiums of 100 guineas, 50 guineas, and 30 guineas are to be given to the authors of designs selected 1st, 2nd, and 3rd, respectively, in point of merit.

Free Library and Art Gallery, Southport.—Premium for best design, 50*l*.; 2nd, 25*l*. Premiated plan, "Classic," Messrs. Wm. Waddington & Son, Burnley, who have received instructions to carry out the work. Second best, "Haut et Bon," Mr. John, Stephens, of Manchester. The other designs were "Labor Omnia Vincit," "As you like it," "Thorough," "Claremont," "1876," "Salus Populi, A & B," "Art," "Science," "Art and Science," "Education," "Arch," A dot in a square, "Pro Bono Publico," "Hal," "Audeo," "Chaucer," "Let there be light."

Auction Hall, &c., Penrith.—The competition for the new auction hall, &c., for the Farmer's Auction Company (Limited), at Penrith, has resulted in favour of plans sent in by Mr. J. Mawson, architect, Lowther and Penrith.

YANWATH HALL.

DINING IN YE HALLE IN YE FOURTEENTH CENTURY.

ON the occasion of the outing of the Cleveland Literary and Philosophical Society to Ullswater, Yanwath Hall was visited. The party assembled in the courtyard, and Dr. Taylor gave an interesting and minute description of the ancient feudal fortress, in order that the visitors might see for themselves in what manner their ancestors lived four hundred years ago. The doctor concluded his remarks as follows:—Let our fancy carry us back to some of the scenes which may have been enacted here. At the far end of the hall, opposite the screens, was the dais, or raised platform of two steps, with its high table, or 'high-borde,' for the lord and his principal guests; down the hall in front were ranged the boards on trestles, and the benches for retainers, and those of inferior degree. No carpet covered the floor, but it was strewn with sweet rush, lavender, and sweet plants. The lower part of the walls was wainscoted in the Gothic style, or that same quaint linen-pattern that you still see on the outer door leading into the court-yard, and of which there is some beautiful work shown at Brougham Hall. From the stag antlers on the walls hung the furniture of war—shields and targets, lances and pennons, broadsword and battle-axe, and the long-bow and cross-bow — together with the engines and trophies of the chase. Here hung also the beautiful burnished armour (which at this period had attained its zenith of perfection), which might be donned hastily any night, on the alarm note of the warden's bugle on the tower signalling the firing of the Beacon of Penrith. Under the benches lay the dozing but quick-scented bloodhounds, kept and provided by the lord, both for the chase, and, if need were, for the pursuit with *hot trod* of the *red hand* moss-trooper over the border. Over the chimney-piece, on heraldic escutcheons, were blazoned the armorial bearings of the Threlkelds, and the quarterings of their alliances,—the Clifford and Vesey. On the wall behind the dais there was a hanging of arras tapestry, representing within its embroidered border some famous incident in chivalry, the work of the fair ladies of the house, — an art but lately introduced into England. The period, let us say, was at the end of the long reign of Edward III., or the close of the fourteenth century, the most glorious in the annals of English architecture, and the most brilliant for prowess in the whole history of England. The great North of England barons, Roger de Clifford, of Appleby, and Ranulph de Dacre, commissioners on the Border marches, and all gentlemen of inferior array, were ordered by Royal mandate to repair to their northern estates, and there keep residence, and arm their followers, to defend the country against the Scots. The lord of the beautiful domain of Yanwath of that day was William de Threlkeld. Let us people the whole with his immediate friends and neighbours. There were Thomas de Lancaster, of Sockbridge, and his kinsman, Sir William de Lancaster, of Howgill, knight, both branches of the family of the powerful barons of Kendal. There was William de Wybergh, of St. Bees, who had just succeeded to the manor of Clifton Hall, by his marriage with Eleanor, the only daughter of the last of the d'Engaynes, of Clifton, besides John de Carleton, of Carleton; Edmund Sandford, of Askham; and many others; and lastly came the Knight of the Shire, Sir Hugh Lowther, whose office it was to marshal the array of vassals and men at arms that might presently be wanted for the Scottish border; and to swell the lordly possessions of whose successors it was destined the manors of most present were to pass. Nor was the Church unrepresented, for the white and black garb of the monk and the cleric rustled softly amid the clang of the half-mailed knights; and the grace was said by the abbot of the neighbouring monastery of Heppe, and after the feast the pax was offered, and the alms-dish presented by my lord's "aumonier," or private chaplain.

The hour is half-past ten; on the upper table the white cloth is spread, and the trumpet has sounded the call to dinner—for our forefathers of the fourteenth century rose at five. The pages bring in the ponderous dishes for the banquet,—a beautiful and varied fare. Salmon from the Poke Dub, the pool in the river below, the great grey lake trout from Ullswater, eels from the Stanke at Pooley; the head of a wild boar speared in Grisdale; venison from a "stag of ten," shot with the quarrel-bolt of the bowman in Martindale, or from a noble hart, a veritable "hart o' grease," run by the "sleuth dogges" from the park of Whinfell, in the manner of Oglebird, and brittled at Tarn Wadlyn, in the forest of Inglewood. Nor do the men-at-arms below the salt fail to help themselves with their fingers (for there were no forks in those days) to huge slices of beef from the baron of one of the knowted kine, a reprisal in an *outrode* against the Elliots of Liddlesdale, or on the braes of Annandale. Nor does the "high table" lack in the more refined samples of culinary art: the highly-flavoured pasties, and the poignant ragouts, mortrews and stews, hotly-seasoned with spicery, and coloured with saffron; for our ancestors were *bon vivants* and epicures in their way. The mead and sack, the Malmsey and Rhenish, and the flagons of highly-spiced claret cup, and ippocrasse—and the wassail and the mazer bowl pass freely from hand to hand; and the "celerarius, with his black-jack stoups, makes many a trip to the buttery hatch, for the nut-brown ale, to fill up the horns of the thirsty comrades at the lower tables.

And, 'twas merry in the hall,
And the beards wagged all.

And during the while, the fool, in his motley, cracks his widest jokes, and the band of jongleurs or wandering minstrels in the music gallery, in their fanciful dresses, strum their merriest airs to divert the company, and sing their ballads and roundelays, or narrate in their jingling rhymes how the Scots fell at Halidon Hill, or how some border knight won his spurs on the field of Cressy or Poictiers."

GENERAL CODE OF BUILDING REGULATIONS.*

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

SIR,—The subject of a general code of building regulations for the United Kingdom having been discussed at the recent Conference of Architects (as reported in your journal), the council of this Institute have appointed a committee to communicate with the provincial architectural societies and the Local Government Board, and to report to our council on the subject.

Meanwhile, this committee would be glad to receive from architects practising in the provinces any communications relating to this matter, especially with reference to the defects of building bye-laws at present in force, and such other details as their experience leads them to consider it desirable to embody in a general code of the kind proposed.

The council hope that the great importance of this subject to the profession and the public at large will induce those who have considered it to give our committee all the information in their power.

Communications should be addressed to me before the 31st of July. CHARLES L. EASTLAKE, Sec.

London Trees.—A motion was made in the St. Marylebone Vestry to plant trees in the Edgware-road in front of twenty houses where the footway is about eight yards wide, and a memorial was sent by the shopkeepers highly in favour of the proposal, but it has been negatived,—bricks and mortar are too much in the ascendant.

* Received last week too late for insertion.

THE POLLUTION OF RIVERS BILL.

THE Bill introduced by Mr. Sclater-Booth "for making further provision for the prevention of the pollution of rivers" contains prohibitions against putting solid matters into streams, and against the drainage into them of sewers and of poisonous and polluting liquids from manufactories or from mines. Persons are not, however, to be deemed to have committed an offence against the Act if they can show, to the satisfaction of the Court having cognisance of the cases, that they are using the best practicable and available means to render harmless the polluting matter. It is also provided that no proceedings are to be taken against owners of factories or mines under the Act, save by a sanitary authority, nor without the consent of the Local Government Board, "which Board, in giving or withholding their consent, shall have regard to the industrial interests involved in the case and to the circumstances and requirements of the locality." Other provisions are that the sanitary authority is to afford facilities for factories draining into sewers, and that the Local Government Board may authorise sanitary authorities to make bye-laws for the protection of streams.

The following is the full text of the clauses relating to sewage pollutions and to manufacturing and mining pollutions:—

Every person who causes to fall or flow, or knowingly permits to fall or flow, or to be carried into any stream, any solid or liquid sewage matter, shall (subject as in this Act mentioned) be deemed to have committed an offence against this Act. Where any sewage matter falls or flows, or is carried into any stream, along a channel used, or in process of construction at the date of the passing of this Act, for the purpose of conveying such sewage matter, the person causing or knowingly permitting the sewage matter so to fall or flow, or to be carried, shall not be deemed to have committed an offence against this Act if he shows to the satisfaction of the Court having cognisance of the case that he is using the best practicable and available means to render harmless the sewage matter so falling or flowing or carried into the stream. Where the Local Government Board are satisfied that further time ought to be granted to any Sanitary Authority which at the date of the passing of this Act is discharging sewage matter into any stream by any such channel as aforesaid, for the purpose of enabling such Authority to adopt the best practicable and available means for rendering harmless such sewage matter, the Local Government Board may by order declare that this section shall not, as far as regards the discharge of sewage matter by such channel, be in operation within the district of such Authority until the expiration of a period to be limited in the order. Any order made under this section may be from time to time renewed by the Local Government Board, subject to such conditions, if any, as they may deem fit. A person shall not be guilty of an offence under this section in respect of the passing of sewage into a stream along a channel over which he has no control.

Every person who causes to fall or flow or knowingly permits to fall or flow or to be carried into any stream any poisonous, noxious, or polluting liquid proceeding from any factory or manufacturing process shall (subject as in this Act mentioned) be deemed to have committed an offence against this Act. Where any such poisonous, noxious, or polluting liquid as aforesaid falls or flows or is carried into any stream along a channel used or in process of construction at the date of the passing of this Act for the purpose of conveying such liquid, the person causing or knowingly permitting the poisonous, noxious, or polluting liquid so to fall or flow or to be carried shall not be deemed to have committed an offence against this Act if he shows, to the satisfaction of the Court having cognisance of the case, that he is using the best practicable and available means to render harmless the poisonous, noxious, or polluting liquid so falling or flowing or carried into the stream.

Every person who causes to fall or flow or knowingly permits to fall or flow, or to be carried into any stream any poisonous, noxious, or polluting liquid proceeding from any mine, other than water which has been drained or raised from such mine, and has not been subsequently used for washing or cleansing ore, shall be deemed to have committed an offence against this Act, unless he shows, to the satisfaction of the Court having cognisance of the case, that he is using the best practicable and available means to render harmless the poisonous, noxious, or polluting liquid so falling or flowing or carried into the stream. Unless and until Parliament otherwise provides, proceedings shall not be taken against any person under this part of this Act, save by a Sanitary Authority; nor shall any such proceedings be taken without the consent of the Local Government Board, which Board, in giving or withholding their consent, shall have regard to the industrial interests involved in the case, and to the circumstances and requirements of the locality.

An Arbitration Case Settled.—The arbitrator, Mr. James Edmeston, of London, has made his award in the case of Bays *v.* Farren, the hearing of which took place several weeks ago. The plaintiff claimed of the defendant the sum of 69*l.* 18*s.* 6*d.*, for preparing plans and specifications for a house at the corner of Market-street, Cambridge, and for other services connected therewith, and the defendant resisted the claim on the ground that the plaintiff's plans were practically useless to him. The arbitrator has awarded the plaintiff the sum of 10*l.* 10*s.*, and has directed that each party shall bear his own costs of the litigation.

STATUES.

King Alfred.—It has been generally known for some time past that Count Gleichen has been entrusted with a commission from Colonel Loyd Lindsay, V.C., M.P., to execute a statue of King Alfred the Great, with a view to its erection in the town of Wantage, the birthplace of the illustrious king. The statue is being sculptured in marble, and will be placed upon a granite pedestal. The cost will be over 2,000 guineas. The king is represented holding a roll of parchment in one hand. The offer of the statue having been duly made to the town by Colonel Lindsay through the Commissioners, and formally accepted by that body, the next point was to choose a fitting site whereon to erect the monument. For some time past the present structure in the centre of the Market-place, known as the Town-hall, has been an eye-sore to the inhabitants, and it has been resolved that the building be pulled down, and the site utilised for the erection of the statue.

Prince Consort Memorial, Edinburgh.—Preparations are in progress for the fixing of the bronze statuary and bas-reliefs of the Prince Consort Memorial in Charlotte-square. Mr. Steell, the sculptor, has (says the *Scotsman*) undertaken to have the memorial ready for inauguration by the middle of August. When the memorial was first projected, competitive designs were invited, and, out of a large number sent in, seven were selected to be submitted to the Queen, with the view of obtaining an expression of her Majesty's opinion. Before indicating any preference, the Queen requested the late Sir Charles Eastlake, president of the Royal Academy, to examine the models, and on comparing notes, it was found that Sir Charles concurred with her Majesty in selecting the design by Mr. Steell, in which the Prince was represented on horseback, with subsidiary groups round the pedestal to suggest the homage paid to his Royal Highness by a grateful people. While reserving to himself the execution of the equestrian statue, as also four bas-reliefs intended to illustrate the Prince Consort's career, Mr. Steell invited the co-operation of other Scottish sculptors in the modelling of the subordinate groups; and these have accordingly been carried out, from his designs, by Messrs. W. Brodie, Clark Stanton, and D. W. Stevenson, the work in each case being cast at Mr. Steell's foundry.

The Orleans Family.—Several statues in white marble are to be placed in the crypt of the tomb for the Orleans family at Dreux. The first, ordered by the Count de Paris, represents Mdme. Adelaide lying on a bed, the head and breast surrounded by a lace veil. The three others have been commanded by the Duke de Montpensier, who will place them on the sepulchres of his daughter and two sons. All four are the work of the sculptor Millet.

MASTERS AND MEN.

Carnarvon.—The men at the Menai Moel Tryfan slate quarry struck on the 30th ult., in consequence of the manager refusing the Saturday half-holiday.

Brighouse.—On the 26th ult. the Brighouse painters made a demand upon their employers for an advance of wages at the rate of ½d. per hour. Nearly all the masters agreed to this, except one firm, whose men were offered ¼d. advance, but refused this, and turned out.

Rugby.—At a large representative meeting of joiners and carpenters of North Warwickshire, held at Rugby on the 24th ult., it was unanimously agreed to strike work, because of the masters refusing to increase the rate per hour from 7d. to 8d., and it was agreed by the men to fetch their tools away on Monday morning. The masters refuse because the men had an advance from 6½d. to 7d. only so short a time back as September last. The executive of the Carpenters' and Joiners' Society approve of the step taken, and will support the men.

Ayr.—The strike of the operative joiners of Ayr, which has lasted more than a month, is now at an end. The men demanded an advance from 7½d. to 8d. per hour, 1*s.* advance on the rate extra while working in the country, and the masters to sign the bye-laws. On the 22nd ult. the men agreed to the following terms:—7½d. per hour and the masters to sign the bye-laws.

Worcester.—Mr. J. D. Prior, Secretary of the Amalgamated Society of Carpenters and Joiners, lately lectured at Worcester on "Trade Unions and their Influence on the Relations between Capital and Labour." At the close of the lecture the following resolution was agreed to:—"That this meeting, recognising the great benefits to be derived from trade unions when wisely conducted, earnestly recommends all working men to avail themselves of the advantages which these societies confer upon their members in the time of need."

Glasgow.—At a meeting, on the 27th ult., of the operative joiners on strike at Glasgow, it was stated that six additional employers had acceded to the demands of the men. At a subsequent meeting a communication was submitted from the Trades' Council suggesting that a committee of twelve, representing the men, and a similar number representing the employers, should be appointed, with a neutral person as chairman, to consider bye-law 10, which binds the men to an agreement for twelve months. The meeting would not entertain the proposal, however. A similar communication has been forwarded to the Master Wrights' Association. A motion was agreed to that the men employed do not work over-time until the dispute is at an end, as it would have a prejudicial effect both on the employed and the unemployed. The strike has now lasted for about six weeks, and those yet out seem determined to return to work only on condition that their demands are conceded. The employers, on the other hand, are as determined as ever not to give in, and allege that the reported additions to the number of masters who have signed the bye-laws do not mean much. A meeting of the operatives was held on the 28th ult., when the chairman, Mr. Grant, stated that the deputations appointed to wait on the men working on the old terms had not been so successful as could have been wished. Those on strike were still determined to remain out until their demands were granted, and it was reported that an extra allowance would be given to the non-society men during the fair holidays.

Willenhall.—On Monday last, the 3rd inst., about 400 of the rim and mortise lock and key smiths of Willenhall struck work, in consequence of the refusal of the employers to give them an advance of ten per cent. on their wages, in addition to the ten per cent. advanced to them last autumn, about which time the Wolverhampton smiths received a twenty per cent. increase. Negotiations have been going on for some time past between employers and employed, and a fortnight ago the men gave formal notice for an advance, which expired on Saturday last. The masters refused to grant the advance, for the following reasons:—1. That the general trade of the country is now in a very depressed state, and prices of almost every article of manufacture have a downward tendency. 2. That the demand for locks has much fallen off for the last three months. 3. That the amount of foreign competition is greatly on the increase. It is stated that large quantities of door-locks are now being imported into this country and the colonies from America, at prices very much below those of English make.

Southport.—The joiners of Southport have made an offer to the masters to resume work at 8¾d. per hour, and 9d. from the first week in August. This, however, the employers have refused, as they have nearly filled their shops with men from other towns.

Sheffield.—Five months ago the masons in Sheffield gave notice of a demand to be paid a halfpenny per hour beyond their present rate of remuneration; in other words, an advance of 2*s.* per week. The notice expired on the 3rd inst. Several interviews have taken place between deputations representing the men and representatives of the Master Builders' Association, the result being that the masters offered an advance of a farthing an hour, equal to a rise of 1*s.* per week. This offer the men have rejected. On the 28th ult. the Master Builders' Association held a meeting at the King's Head Hotel, under the presidency of Mr. Rodley, for the purpose of discussing the position of affairs, when a resolution was unanimously passed in favour of submitting the dispute to arbitration. A general meeting of the operative masons was held on the 30th ult., when the master builders' proposal to refer the question to arbitration was fully considered, and the following resolution was unanimously carried:—"That we, the masons of Sheffield, adhere to our original notice for 8¾d. per hour, and consider the master builders' proposition to refer the wage question to arbitration so ill-timed that we cannot at the last moment our notice is about to expire accept it."

CHURCH-BUILDING NEWS.

Tranmere.—St. Catherine's Church, Tranmere, Liverpool, has been reopened, after being closed twelve months for renovation and enlargement. The alterations carried out have effected a complete change in the character of the building. The whole of the east end has been replaced by a new chancel and transepts, erected in stone; stone facings have been added to the old portion of the church; and stone doorways have taken the place of the former means of ingress. For the flat ceiling which existed, an open-timbered roof has been substituted at an increased altitude of 14 ft., and the gallery located in the west end has disappeared altogether. Gothic windows of geometrical glass are introduced throughout. The stained-glass window in the chancel at the east end,—the gift of the vicar, the Rev. M. L. J. Mortimer and family,—contains the figures of Christ, the four Evangelists, and St. Catherine. The chancel is paved with encaustic tiles, and is furnished with a new pulpit of Caen stone. Additional space has been gained by the removal to the east end of a vestry formerly located in the west extremity of the church. The structural alterations have had the effect of providing 300 additional sittings. The cost, inclusive of special gifts from friends and members of the congregation, has been over 3,300*l.*, exclusive of a contemplated tower and spire. The whole of the work has been executed by Mr. W. H. Forde, of Claughton-road, Birkenhead, in accordance with designs furnished by Mr. J. F. Doyle, architect, Liverpool.

Boughton. — St. Paul's Church, Boughton, Cheshire, has been reopened, after restoration to an extent almost tantamount to rebuilding. The old building was in the Classic style, but in the alterations this has been lost, the walls and foundations only being retained in the new building, which is Early Gothic in style. Externally the walls are cased with red bricks, relieved with stone bands. The roofs are slated with dark-coloured slates, and the bell-turret, which forms a conspicuous feature, is covered with oak shingles, with an iron cross as a terminal. Internally the wide span of the former church is divided into a nave and two aisles by a timber arcade consisting of pitch pine pillars with arched openings and framing above, forming panels, which are filled in with cement, the white colour of the panels presenting a pleasing contrast to the dark stained timber work. The high pitched roof covers the nave and aisles in one span, and is plastered between the timbers internally, the latter being exposed to view and stained. The benches or open pews are of pitch pine, stained and varnished. Messrs. Farrimond & Co., of Chester, were the contractors for the whole of the work, which has been carried out by them at a cost of about 3,300*l.* The architect is Mr. John Douglas, of Chester.

Polmont. — Polmont parish church has been re-opened, after restoration. The condition of the church has been much improved, one noticeable feature being that behind the pulpit the ten commandments are set up in gilt letters on a blue ground, surmounted by a scroll, with another running underneath, bearing the inscription:—"The Law was given by Moses: Grace and Truth came by Jesus Christ." This, as well as the whole painting of the church, has been done by Messrs. Fergusson & Bell, Falkirk. The old pulpit, with sounding-board and the precentor's desk, has been removed, and an oak pulpit and a Communion-table, with three chairs behind it, have been substituted. In front of the Communion-table stands a Caen-stone baptismal font. All these articles have been supplied by Mr. Gilbert J. French, Bolton.

Ipswich. — The Vestry of St. Lawrence's, Ipswich, have approved of the plans prepared by Messrs. Barnes & Bisshopp for the restoration of the parish church. They provide for the erection of an organ-chamber and vestry on the north side of the chancel, so that the organ and the choir will be brought closer together. The organ-chamber will be divided from the chancel by a perforated arch, springing from granite shafts, with moulded stone capitals and carved bases. The gallery at the west end of the church upon which the organ now stands will be altered so as to extend across the entire width of the nave, and will be utilised for benches, so as to afford about fifty additional sittings.

Drighlington.—It is proposed to build a new church at Drighlington, in place of the present edifice, which has become too small for the increasing population of the neighbourhood. The proposed site is an extension of the existing churchyard. The plans have been prepared by Mr. Swindon Barber, and the design includes a square tower, 20 ft. clear inside measure, with walls of a corresponding thickness, and is arranged to accommodate seventy people, every one having a complete view eastward, through an arch 18 ft. wide, opening into the nave. In the tower is a five-light window, and the ceiling forms the floor of the ringers' chamber, which is supported on heavy beams and moulded joists. Very slightly projecting piers support the chancel arch, which is 22 ft. wide and correspondingly lofty. The principal entrance to the church is by a low-roofed porch, 10 ft. deep. The aisles are 12 ft. wide and of equal length with the nave, divided from it by an arcade of four arches. Above the arcade is a clearstory wall pierced by three-light windows, which supports a heavily-timbered roof. The chancel is 36 ft. long, and to the north are arranged an organ-chamber and vestries, and to the south a corresponding aisle of two bays of equal height with those in the nave. The east window is of seven lights, the tracery being enclosed by a four-centred arch, according in outline to the hammer-beam roof, which is strengthened by upright posts and traceried heads. Little or no ornamental carved work is employed throughout the church.

Newcastle (Staffordshire).—St. Giles's Church, Newcastle, Staffordshire, has been consecrated. Sir Gilbert Scott is the architect, and the cost has been 13,000*l.* or 14,000*l.* The following is a statement of the principal dimensions:—Extreme length, 150 ft.; width, 75 ft.; height from the nave floor to the top of the ridge tree, 64 ft. 6 in.; height of the chancel arch, 40 ft. 6 in.; width, 24 ft. 6 in. The east window is seven lights wide, and the head is filled in with elegant tracery. There are no galleries, and the church will accommodate upwards of 1,000 persons.

Stowmarket.—It is proposed to restore the tower of Stowmarket parish church, at a cost estimated at 500*l.* It is stated that the tower is in a dangerous condition, and requires prompt attention.

Hagley.—The inhabitants of Hagley intend to erect, by subscriptions amongst themselves, in memory of the late Lord Lyttelton, a lych-gate to their parish church, which was recently partly rebuilt and restored from the designs of Mr. Street.

Salisbury.—The enlargement of St. Paul's Church, Fisherton, by the erection of a new north aisle, is about to be proceeded with. The work is to be done by Messrs. Hale & Sons, of Salisbury, whose tender (1,567*l.*) has been accepted.——The galleries in St. Thomas's Church, Salisbury, having been removed, the present lofty pulpit is no longer needed, and it has, therefore, been decided to have a new one of stone. It is to be designed by Mr. G. E. Street, R.A., and will cost about 150*l.*

Taunton.—At a vestry meeting recently held at Kingston, near Taunton, it was unanimously resolved to restore and repair the ancient parish church. Mr. Spencer, of Taunton, has been appointed the architect. The Ecclesiastical Commissioners have promised a portion of the amount of money required.

Netherhampton.—At a meeting of the parishioners to consider what steps should be taken as regards the proposed improvements of the church, the plans prepared by Mr. Butterfield, architect, were approved.

DISSENTING CHURCH BUILDING NEWS.

Moreton Corbett.—A new Wesleyan chapel has been opened at Moreton Corbett, near Shawbury. It has been erected by Messrs. Paterson, of Wellington, at a cost of 650*l.*, and contains 250 sittings.

New Swindon.—A new chapel for the Primitive Methodists of New Swindon has been completed and opened. The building is of red brick, with Bath stone dressings, and is in the Italian style. The principal entrance is in the centre of the Regent-street front, with additional entrances at each end. There are galleries at each side and at each end, supported upon light iron columns, the front panels being filled in with ornamental iron work. The seats are executed in best red deal, stained and varnished. In the rear of the building there are three large class-rooms and other necessary offices, and underneath the chapel a large schoolroom, 38 ft. long, 32 ft. wide, and 9 ft. high in the clear. The architect was Mr. Orlando Baker, of New Swindon; and the contractor, Mr. George Wiltshire, of Swindon. The total cost is about 2,000*l.*

Dorking. — The memorial-stone of the new Baptist Chapel in course of erection in the Junction-road, Dorking, was laid on Whit-Monday. The chapel has been designed by Messrs. Searle, Son, & Hayes, architects, of London, and is being built by Messrs. Colls & Sons, of London and Dorking. It will seat 230 persons, while provision will be made for the erection of galleries to seat 100 more when required. There will also be a vestry and school-room attached. The total cost will be about 1,600*l.*

Seacombe.—The memorial stone of the Welsh Calvinistic Methodist Chapel, Liscard-road, Seacombe, has been laid by Mr. David Davies, M.P. The building will be cruciform, and consist of a nave, transept, and vestry. There will be a roomy porch at the north-east angle, and tower porch on the north-east side. The style of architecture will be Gothic of the Early English period. The roof will be partly open, following the curve of principals, which will rest on detached columns of marble with foliated caps. The nave will be divided by means of the principals into three bays with cross principals at the intersection of the transept. The pews, which will all be open, will be constructed of pitch pine with framed bench ends, while the pulpit and Communion seat will be made of Dantzic oak. The accommodation will be for 270 sittings in the nave, and the intention is to use the transept as schoolrooms. It will be divided from the nave by brick partition walls, which when taken down and thrown into the chapel will give 120 extra sittings. Externally the main gable, which will front Liscard-road, will be flanked by a tower and spire,—which will rise in four stages to a height of 90 ft. from the ground to the top of the vane,—and on the north-east side by a small turret, which will be 40 ft. to the top of the finial. In this gable will be a seven-light tracery-headed window, having three-quarter columns with moulded caps and bases. The whole of the stone used externally in the dressings, ashlars, &c., will be limestone, from Denbigh. The roofs will be covered with blue Bangor slates. At the intersection of the transept with the nave there will be a *flèche*, covered with lead and surmounted by a finial. The total cost, including land and laying out the grounds, will be about 4,000*l.* The contractor for the whole of the works is Mr. William Jones, of Beaumaris; the architect being Mr. R. G. Thomas, of Menai Bridge, whose plans were selected in limited competition.

Tattingstone.—The memorial-stone of a new Wesleyan chapel at Tattingstone has been laid by Lord John Hervey. The new buildings are to be in the Decorated Gothic style (the material used being red brick, with white facings), and will comprise chapel, school, two vestries, and offices. The window-heads will be of stone, with quatrefoil openings, in which will be placed ventilators. The chapel, approached by two entrance-lobbies, will be seated with plain stained and varnished deal benches; and the rostrum will be under an arched recess, 3 ft. 6 in. deep. The chapel, including gallery, will seat 320 persons. The school, which is at the back of the chapel, is 25 ft. long, by 20 ft. 6 in. wide. At the junction of the school with the chapel are placed the minister's and steward's vestries, giving a transept appearance. These are so arranged as to be available for large congregations in the chapel on Sundays, or in the school-room on week evenings. The contract, including lighting, warming, and front boundary fence, has been taken by Messrs. Saunders, of Dedham, for 1,094*l.* The architects are Messrs. Cattermole & Eade, of Ipswich.

Proposed Memorial of Viscount Falkland.—The poet Southey, many years ago, proposed that a column should be placed on the spot where Lucius Cary, Viscount Falkland, fell in the royal cause, at the first battle of Newbury, on the 18th September, 1643, but no practical efforts have as yet been made to preserve his memory. The proposal has been revived by the Newbury District Field Club. Lord Carnarvon, whom the committee of the club consulted, has expressed a warm interest in the work. The design is intended not only to record the death of Lord Falkland, but of Lords Carnarvon and Sunderland, and many other distinguished Royalist officers who fell in the same battle. The cost of the memorial in Portland stone, and including sculpture, has been estimated at 600*l.*

SURVEYORS AND LOCAL BOARDS, &c.

SIR,—Is there no appeal against "frivolous objections" to plans passing,—the committee's and their surveyor's? I am told that if I sent rejected plans to the Local Government Board they would only return them and nothing more.

I will give you a brief sketch of my peculiar position, viz., I have been many years trying to work up a practice in a rough district of cotton and woollen manufacturers, &c., and the neighbourhood, gradually increasing, is divided into districts under Local Boards.

Our Board give 150*l.* per annum to their surveyor, and he was *not* to practise for himself; but I find that he is doing so, and one of his "building committee" is a contractor, and doing work under him. I seldom send a set of plans in without there is the usual "petty objection" which delays the work for a month, and the client says to me, "Your plans have not passed"! I have been now twenty years nearly in constant private practice as an architect and surveyor in every sense of the term. Just imagine this, when your plans have to pass a *surveyor* of twenty-three or twenty-four years of age, and a building committee of a local board composed of little dealers in all sorts, &c. Again, an individual told me lately, that if he gave the surveyors to Local Boards plans to make for buildings to be erected on his land, he would have *no trouble* as to their *passing*, or during erection.

Then it is very easy for a surveyor to a local Board to do work at 50 per cent. *less* than an architect, who has *not* this regular income; and yet the architect is saddled with rates to pay the surveyor's salary. Sometimes a change in the members of the Board produces a change in the surveyor. He may be of the wrong creed (*credo mihi*) or colour. Then he sets up for himself in your little district, and gradually begins to get hold of little things that one used to fill up time with to advantage. The same process goes on at intervals, until the little district and its surroundings are full of this sort of thing.

There is another matter, viz., that most of these Local Boards state in their bye-laws that copies of all plans, &c., of buildings shall be left for the surveyor. I once sent copies of a mansion to the surveyor of a seaport town, on tracing paper, but he wanted copies mounted on canvas (he had not the mansion to design), and I was some time before I could get them (the copies) accepted, on the finest patent linen. He knew my client. As to copyright of a design,—is an architect obliged to send anything more than the *bare openings* of windows and doors on the elevations sent to Local Boards? If a Local Board gets hold of a surveyor, and he answers their purpose, and does their private work for next to nothing, the man in private practice in the district gradually gets under-worked in price, and is often annoyed by people saying that his plans have "not passed."

Will any brother architect in a similar position give me a little of his experience as to what can be done through the Local Government Board? Surely they are only paid servants of the public, and consequently must do something more than return plans without redress! If surveyors to Local Boards are to practise on their own account, what is to stop them from *borrowing* from *original designs* deposited with them by architects? Is not an architect's design his copyright? I fully intended being at the "Conference" on the 12th inst., but it takes me all my time to keep my little practice together, or I would have opened up two or three matters of this kind. To depart from the straight line, why cannot there be the "Conference week," and held annually at different provincial towns, and, say, every three years in London? Much good might be done thereby.

ONE OF THE CRAFT
WHO LOVES HIS PROFESSION.

SUSSEX MANSIONS.

SIR,—The volumes of the Sussex Archæological Society contain engravings of notable buildings, besides those mentioned by me in the *Builder* (April 8), viz.:—Vol. v., p. 250, Rusper Priory, near Horsham, A.D. 1781, "presenting none of the customary features of conventual structures," by Mr. S. H. Gremin (Burrell MS. Brit. Mus., No. 5,698, fol. 486, and catalogue of MSS. maps, drawings, &c., vol. ii., 1844, p. 246); also, two views, by Mr. John Dunstall, of "A Temple by Chichester," a round church, apparently placed on a hill. This artist (A.D. 1662) is named in Walpole's Hist. of Engravers. Vol. vi., Gateway of Lewes Castle, N.W. view, p. 126; Michelham Priory, &c., nine woodcuts, p. 129–63; Relics of Lewes Priory, three views, pp. 259–62; Pevensey Castle, east view, and map, pp. 264–74. Vol. vii., Crowhurst Manor House, p. 15, and plan; Brickwork at Laughton Place, six views, pp. 65–72. Vols. viii. and ix., Plan of Sedgwick Castle, view of Dureford Abbey. Vol. ix., views of Bodiam Castle, being three engravings and a lithograph of the south transept of Bayham Abbey, the ancient Begham, "abode encircled with streams as with a garland," the Saxon "beag," or "beg," i.e., chaplet, or crown, built by Sir Robert de Turneham, in the reign of Richard I.; Eastbourne Priory, five views; East Mascall's Timber House, Lindfield; and Southover Priory. Vol. x., two views of Danny, and three of Wakehurst Place, erected A.D. 1590 (see Burrell's Add. MSS., 5,684, f. 151); Slaugham Manor House, and the Staircase, Star Hotel, Lewes, seven views; Benfield and Gravety Houses, A.D. 1611, and A.D. 1598, in Hangleton and West Hoathley parishes; the Crypt, Lamb Inn, Eastbourne. Vol. ii., Lindfield Old House, timber built, 1578; Holmesdale, Chaloners, and Holland House, in East Hoathley. Vol. xii. contains engravings of Nayland House, of the Elizabethan period; Brede Place, two views. Vol. xiii. contains Old Petworth House, wherein Edward VI. was received A.D. 1552, and ancient houses at Petworth and Hastings; also, Eastbourne Parsonage and Chiddingley old houses. Vol. xviii., Isfield-place (*see* Horsfield's Lewes, vol. ii., p. 142). Vol. xix., Ote Hall, A.D. 1600, Petworth George Inn and old houses, 1866. Vol. xx., Buck Hall, Cowdray, Glynde-place and Gateway, Brambletye Manor House and Gateway (*see* Horsfield's Sussex, vi., p. 389). Vol. xxi., Mayfield Palace Ruins, Lordington House Staircase (seventeenth century), Holmesburst, and Bateman's, being "lone manor-like Elizabethan and Caroline houses," in Burwash Grove House, Hollington, A.D. 1804. Vol. xxiii., Hall of Old Racton House, 1782, Hickstead-place and Castle, (sixteenth century). Vol. xxiv., Parham Clock House, Cuckfield Park (A.D. 1681), Streat-place, and stone mantelpiece (Elizabethan). Mr. C. Sergison observed, vol. xxv., p. 81, note, "in the reign of Hen. VIII. mansions were built in the form of the letter H. In Elizabeth's time, in the form of E; and in the time of Jas. I. in the form of a figure to represent J—one straight line forming two right angles with another one." Pakyns, at Hurstpierpoint, may be a specimen of this style of domestic architecture.

CHR. COOKE.

CONTRIBUTIONS FOR ANNUAL OUTINGS.

SIR,—May I enter a protest in your paper against the growing practice, in full play just now, of the workmen employed by builders, &c., writing to manufacturers and others for contributions to their annual outing? I think it a most unjust tax, and quite contrary to the independent spirit which these same men exhibit, about annually, when they strike for higher wages, &c. So much is the practice growing, and becoming a recognised institution, that we are now receiving regular printed forms, with the name of the employer, &c.

Being considerable employers ourselves, we never allow our workpeople to accept fees, nor do they at all look for it; and will venture to hope that your artisan readers, who work for employers and clients, will see the injustice of receiving "something for nothing." A. S.

CANTERBURY CATHEDRAL.

SIR,—I was present, and watched with great interest some trials of Messrs. Merryweather's steam fire-engine at Canterbury, on Monday and Tuesday last; and when we think of the many narrow escapes the cathedral has had from the ravages of fire,—one so recently as five weeks ago, another in 1872,—the significance of the present attention the Dean and Chapter pay to the important trusts committed to their charge becomes only now manifest. As a national monument it will be conceded that Canterbury Cathedral stands unique; and connecting as it does the Saxon Heptarchy with the nineteenth century of the Christian era, it possesses claims upon our attention second to none in the kingdom. Your readers will remember the circumstance, before alluded to, as occurring some five weeks ago, of Mr. Trimnell, jun., of Canterbury, being fatally injured by an explosion of benzoline in the clock-room of the cathedral. By the kind permission of Mr. H. G. Austin, the surveyor to the fabric, I saw the effects of the explosion in the clock-room itself; these are not of very serious actual moment, but if attention had not been immediately directed to it, the probabilities of serious injury accruing to the south-west tower would have been materially increased; it was, therefore, with satisfaction that I observed the very great interest taken by the Very Rev. the Dean, the Bishop of Dover, Archdeacon Harrison, and in fact all the cathedral authorities, in the experiments made with the steam fire-engine, Mr. Austin taking a most enthusiastic part. By these it is demonstrated that with the assistance of this powerful engine it is quite possible to cope with a fire situated in any part of the cathedral, not excepting the Bell Harry Tower, which is 235 ft. in height; for not only was the water forced up through 320 ft. of hose, but a jet was projected to a further height of 30 ft. above the pinnacles,—themselves 75 ft. higher than the tower. This is the severest test I have ever seen a steam fire-engine put to, the back pressure in the pump-valves being enormous, but the slow, steady stroke of these well-known engines was equal to the occasion, and its performance was greeted with genuine enthusiasm by a large number of spectators. Another interesting experiment was made on Tuesday from the top of the Arundel Tower, the height of which from the ground is 130 ft. The hose was carried up outside the building; steam was raised in eleven minutes to 125 lb. pressure on the square inch, and at 140 lb. steam pressure and 120 lb. water pressure, a 1-in. jet of water was projected to the Bell Harry Tower, a distance horizontally of 170 ft.

The significance of these trials is apparent, and through the medium of your columns I venture to direct the attention of other cathedral authorities to these feats of hydraulic engineering, so that they may emulate the good example set them by the Dean and Chapter of Canterbury, and make provision beforehand for a calamity which attacks some of the grandest of our national monuments before we are well aware of it. The Very Rev. the Dean of Lincoln, late a Canon of Canterbury, is particularly impressed with the importance of an efficient service in case of fire, and since his promotion, has, I understand, devoted his attention to his cathedral in this respect, and adopts a practical rendering of the old Latin motto, *Semper paratus*.

CHARLES B. KING, C.E.

SALT IN SAND.

WHAT is the best method of detecting the presence of salt in sand used for building purposes? I. O. U.

CLAIM FOR ARCHITECTS' COMMISSION ON "EXTRAS."

HADFIELD *v.* GAINSFORD.

AT the Sheffield County Court, on the 28th ult., before Mr. T. Ellison, judge, Messrs. Hadfield & Son, architects, Sheffield, sued Mr. T. B. Gainsford, colliery proprietor, for commission for services in connexion with the erection of a house at Whiteley Wood.

Mr. Barker, in opening the case, stated that in the year 1872 Mr. Gainsford purchased an estate at Whiteley Wood Hall, near Sheffield, with a large mansion-house upon it. Mr. Gainsford was about to make considerable alterations in the house, and he applied to the plaintiffs to provide him with plans, &c. The plans were duly prepared, and afterwards working plans and specifications for the contractor to work by, and finally the work was contracted for by Mr. Corrie, who was a plumber. He undertook the whole of the work for 1,523*l.* 10*s.* The alterations were proceeded with, and Mr. Charles Hadfield superintended the work. After a time, however, Mr. Gainsford did what was almost invariable in such cases; he wanted some deviations to be made from the contract, which meant adding more work than was contained in the original contract. These extras were done and added to Mr. Corrie's bill, so that the total sum paid to him amounted to 1,877*l.* 15*s.* 6*d.*, and Messrs. Hadfield, the plaintiffs, claimed to be entitled to their commission on these extras as well as on the amount of the original contract. The amount on 86*l.* 13*s.* 6*d.* had been paid to the plaintiffs, and whether or not the commission was due on the extras would no doubt depend upon the custom of the profession. Another smaller item in dispute was the commission claimed on a contract entered into by a man named Tomlinson, for panelling the drawing-room, which amounted to 177*l.* Mr. Gainsford declined to pay that, on the ground that he had done the work himself, and Mr. Hadfield had nothing to do with it.

Mr. Gould admitted that Messrs. Hadfield were entitled to the usual commission, but urged that a number of things had been done with which, as he was instructed, Mr. Hadfield had nothing to do.

Mr. Charles Hadfield, partner in the firm of Messrs. Hadfield & Son, architects, having given evidence in support of Mr. Barker's opening statement, the case was adjourned to a day to be arranged by the advocates.

VARIORUM.

LET us view the progress of an English generation. A writer in Cassell's *Family Magazine*, says:—"An English generation on the march from the cradle to the grave is an instructive spectacle, and we have it carefully presented to us in the report by Dr. Farr. Let us trace the physical fortune which any million of us may reasonably expect. The number, to begin with, is made up of 511,745 boys and 488,255 girls, a disproportion which, by-and-by, will be redressed by the undue mortality of the boys, and will be reversed before the close of the strange eventful history. More than a quarter of these children will die before they are five years old,—in exact numbers, 141,387 boys, and 121,795 girls. The two sexes are now nearly on a level. The next five years will be much less fatal. In the succeeding five years,—from ten to fifteen,—the mortality will be still further reduced. Indeed, for both sexes, this is the most healthy period of life; the death-rate, however, is lower

for boys than for girls. There will be some advance in deaths in the next five years, and still more in the five which follow, but 634,045 will certainly enter on their twenty-sixth year. Before the next ten years are at an end, two-thirds of the women will have married. The deaths during that period will be 62,052, and of these no fewer than 27,134 will be caused by consumption. Between thirty-five and forty-five, a still larger "death-toll" will be paid, and little more than half the original band,—in exact number, 502,915,—will enter on their forty-sixth year. Each succeeding decade, up to seventy-five, will now become more fatal, and the numbers will shrink terribly. At seventy-five only 161,124 will remain to be struck down, and of these 122,559 will have perished by the eighty-fifth year of their march. The 38,565 that remain will soon lay down their burdens; but 2,153 of them will struggle on to be ninety-five, and 223 to be 100 years old. Finally, in the 108th year of the course, the last solitary life will flicker out. Such, then, is the average lot of a million English men and women."

——The *Victoria Magazine*, conducted by Miss Emily Faithfull, keeps on its way agreeably, but scarcely gives enough for the money to run successfully against other monthly serials.——*Leisure Hour* has a seasonable word or two on Locks out of Order:—"It is a small house that has not some twenty doors, every one of which ought to be lockable and unlockable at all times. The proper place for the key of a room-door is in the lock, for when lock and key are together both last longest. It is from want of use more than anything else that locks and keys get out of order; "the used key is always bright," says the proverb, and the lock that is used fairly will not refuse to open at the touch of the key. Keep your locks easy by occasional oiling with sweet oil. When a lock refuses to work, draw the screws, and take it off; it may want nothing but cleaning, or it may be that one or two of the wards are bent out of position, and may be set right by a touch of a tool. If the case is beyond your cure, take it to the locksmith (do not send for him) and have it repaired at once. If a key is lost, take the lock to a smith and get another made or fitted. Street-door keys should be kept in duplicate or triplicate, so that if one should be lost others may be procured without removing the lock. As regards locks and keys, it may be affirmed that the cheapest are the dearest in the end. Good locks are now so cheap that it is sheer folly to put up with inferior ones. A lock will often go stiff and seem out of repair simply because the screws by which it is held in its place are a little loose, when all that is needed is to tighten them."

Miscellanea.

Street Directories.—The Street Lamp Committee of the Manchester City Council, at a recent meeting, unanimously authorised the erection in Market-street, by way of experiment, of eight of Messrs. Pearse, Lever, & Co.'s "Public Street Directories." These directories are a novelty in their way. The directory consists of a frame, containing either four, six, or eight name-plates, which can be adjusted to the existing street-lamps. Four directories will be placed at equal distances on each side of the street. At the top will be printed the name of the street; and below, the words "Public Street Directory of ——." The name-plates are constructed to slide in the frames, so that they can at any time be corrected without trouble. They will contain:—1. The names of the various firms trading in the street in which they are erected, with the numbers, arranged alphabetically. 2. The names of the various streets and courts leading from the street, with the numbers nearest from which they abut, arranged alphabetically. 3. Information as to the nearest postal and telegraph offices, railway, fire, and police stations, doctors, &c. Each of the directories will accommodate from 300 to 400 names.

Inspector of Nuisances, Staines.—The election for this office took place at the last meeting of the Local Board. The district comprises an area of about 22,484 acres, and a population of 16,838. The salary is 100*l.* per annum, which includes travelling and other expenses. There were five candidates for the office, viz., Oswald Jacobs, of Feltham; Stephen King, of Shepperton; R. J. Thorpe, of Feltham; Benjamin Clarke, of Guildford; and Henry Ball, of Stanwell; and the first-named candidate was the successful one.

Bucks Architectural and Archæological Society.—This Society recently had an excursion to Magna Charta Island, which is in the parish of Wraysbury, in the county of Bucks. Having travelled by rail to Bourne End, the party numbering about sixty, embarked in a saloon boat and proceeded down the river. After lunch, the annual meeting of the Society was held on board. The Rev. C. Lowndes then read a paper on the Magna Charta Island, in which he referred to the principal events in connexion with the granting of the great charter by King John. The Rev. J. Wood next read some notes on the ancient Nunnery of Ankerwyke, in Buckinghamshire, which had been prepared by Mr. W. de Grey Birch, F.R.S. The foundation of the house was placed as far back as the time of Henry III., in the twelfth century, the founder being one Sir Gilbert de Montfichet. As the boat passed Eton Mr. W. Lowndes read a paper on Eton College, and in about another hour (the journey having lasted altogether nearly six hours), the party arrived at the Magna Charta Island. Here dinner was served under a magnificent walnut tree. The journey by the river, however, had occupied so much more time than had been anticipated, that there was but little opportunity of making explorations, but the cottage in which the grey stone on which the Charter is said to have been signed was visited. The stone, which is enclosed in a strong frame of oak, bears the inscription:—"Be it remembered that on this island, June 25, 1215, John, King of England, signed Magna Charta; and in the year 1834, this building was erected in commemoration of that great and important event, by George Simon Harcourt, Esq., Lord of this Manor, and then High Sheriff of this County." The walls of this cottage (occupied by the ferryman of the island) are decorated with shields bearing the arms of the barons who were in array at Runnymede when the Charter was obtained.

New Buildings at Cambridge University.—The Museums and Lecture Rooms Syndicate of the University of Cambridge have reported to the Senate that in accordance with the Grace of May 4th, 1876, they have obtained tenders for the erection of the proposed new buildings for the Department of Comparative Anatomy and Physiology, according to the plans and specifications of Mr. Fawcett. Tenders have been received from Messrs. Bell & Sons, Messrs. Gray & Sons, Messrs. Horsman & Co., and Mr. Thoday. The lowest tender was that of Messrs. Bell & Sons, amounting to 8,500*l.*, which sum includes 400*l.* to cover unforeseen contingencies. The tenders for laying on gas and water amount to 96*l.* and 330*l.* respectively. A difficulty respecting lights having arisen with an owner of house property in Corn Exchange-street, and his claim for compensation being very greatly in excess of what the Syndicate are advised is reasonable, they have caused the tenders to be divided into two portions, viz., for (A) the western portion of the building, together with the ground floor of the portion facing Corn Exchange-street, including the roofing of the same, and for (B) the upper floors of the portion facing Corn Exchange-street. The amount of Messrs. Bell's tender for (A) is 7,015*l.* for (B) 1,485*l.* The erection of the portion (A) will not interfere with any existing rights of light. The Syndicate therefore recommend that the Vice-Chancellor be authorised to contract with Messrs. Bell for the construction of the portion (A) above described, upon the terms of their tender.

Mr. Simon's Successor.—It has been announced that Dr. Edward Cator Seaton is to be the future medical officer of the Local Government Board, in place of Mr. Simon. We learn from a medical contemporary that "Dr. Seaton has for some years held a senior position in the medical department of the Privy Council, and subsequently as assistant medical officer of the Local Government Board. Dr. Seaton is especially well known in connexion with the subject of vaccination, on which he is a great authority, both scientifically and in respect to official organisation."

Hinderwell and Staithes School Board, Cleveland.—An adjourned meeting of this Board was held on the 27th ult., for the purpose of considering plans for the erection of Board Schools at Staithes to accommodate 300 children. From the nine designs submitted, the one selected was that by Mr. Alfred J. Martin, architect, of Darlington. The schools will be built of brick, and are estimated to cost, exclusive of fittings, about 1,500*l.*

How Sewage Farms are sometimes Mismanaged.—Mr. W. Hope, V.C., of the Romford Sewage Farm, draws the following picture of the manner in which party-spirit occasionally operates to hinder the success of sewage irrigation:—"To begin with, local boards only meet once a month. It is true there is generally a so-called 'farm committee,' which meets once a week or so, but not unfrequently the board is exceedingly jealous of the committee, sometimes on personal, sometimes on political, and sometimes on religious grounds; and at the monthly meetings the board not unfrequently undoes half of what the committee has done or attempted to do. The committee is probably composed of town-bred men, but still at their meetings held on the farm, the bailiff (who is eager and energetic until he loses heart after the first six months or so), by his importunity, succeeds in making them comprehend that he cannot work without tools, and must positively have, for instance, another couple of pairs of horses. But when the committee propound this to the board, several of the more reasonable and impartial members are perhaps absent, and the opportunity is pounced upon by the Baptist clique to veto, in harsh terms, the recommendation of the committee, which is for the moment composed of Anabaptists. The committee, in a rage, resign, and forthwith, at the same meeting, the Baptists instal themselves in place of the Anabaptists, and this not because they know anything whatever about farming, or have been able to find any real fault with their predecessors, or even have any wish to be bothered with the management of the farm, but simply and solely because they wish to spite the Anabaptists, and to see their victory recorded in the columns of the next number of the 'Claypool-cum-Puddleborough Intelligencer.'"

Carving in the Philadelphian Exhibition. Mr. Harry Hems, sculptor, exhibits, among other things an oak cabinet, elaborate in all its details. It measures between 5 ft. and 6 ft. in length, is about 3 ft. wide, and nearly 4 ft. high. Its average thickness is 4 in., and at the angles the wood is doubled. The body of the coffer is panelled, there being four deeply-recessed panels in front and in back, and two panels at each end. These are separated by mountings, the whole being solidly butt-joined, and fastened firmly together, after the old style, by oaken pins. Each panel is filled with carving of curious designs. Around the various panels ornaments of running design are carved, and effective cresting is introduced. At the angles are columns entwined by ornament, and surmounted by carved capitals. The treatment of the back is the same in character as the front, but every item of detail is different. The lid is of roof-like form, panelled with diaper and other ornaments. The inside of the lid is also carved; so that when raised (by means of springs) the interior is in unison with the exterior. This work of art has been made entirely out of beams which, for upwards of 600 years, formed a part of the choir of Salisbury Cathedral. The various hinges, lock-plates, bands, clasps, scrolls, &c., are unique, and have been made by Mr. W. Shrivell, London.

Surcharge of Architects' Charges at Altrincham.—At a recent meeting of the Altrincham Union, the clerk stated that in regard to the surcharge made upon the chairman by the auditor, the chairman had received a letter from Messrs. Mills & Murgatroyd, and he must say that in all his experience he never met with a letter like it. It was much to their honour to write such a letter, and it showed the respectability of the firm. He then read the letter as follows:—"23, Strutt-street, Manchester, June 3rd, 1876. To the Chairman of the Altrincham Board of Guardians. Dear Sir,—We see by the *Altrincham and Bowdon Guardian* that you are likely to be surcharged a portion of the amount paid to us for our professional charges in connexion with the new hospital. Aware, as we are, of the difficult position in which gentlemen occupying your post are placed by the officials to whom they are accountable, we can assure you that we should be very much indisposed to allow you to be subjected to any personal inconvenience on that account, and that we shall be glad to forward you our cheque for any amount you may be called upon to repay on account of our charges.—We are, &c., Mills & Murgatroyd, Architects." The reading of the letter gave great satisfaction; and the clerk added that he did not think Messrs. Mills & Murgatroyd would be called upon to forward a cheque.

Proposed Clock-tower, Aylesbury.—For some time past a project has been on foot for the erection of a clock-tower, to supply the place of the one taken down when the old market-house and tolls reverted to the present Market Company. Various public meetings had been held from time to time, a committee appointed to carry out the scheme, and subscriptions solicited for the purpose of carrying on and completing the work. The appeal met with a hearty response, the total amount of subscriptions reaching over 500*l.*,—a sum sufficient to justify the committee to make a commencement. Plans and specifications were advertised for, and that of Mr. Brandon, London, was accepted. The tower will be of brick, faced with Combe Down Bath stone. On either side will be a drinking-fountain, from which water will be conveyed to troughs at the foot of the steps for animals. The clock will have two illuminated dials, placed at an altitude of 36 ft. from the ground, and above will be a bell-turret, with a spire surmounted by a vane. The entire height from base to spire will be 64 ft., and the style is Early Gothic.

Archæology at Lewes.—A Hastings paper states that with the permission and assistance of Mr. J. C. Lucas, the owner of the property, Colonel Lane Fox has undertaken the opening of one of the burrows in the vicinity of Mount Caburn. There are many points of interest connected with this mount, which forms a bold termination to the spur of downs extending from the Cliffe at Lewes nearly to Glynde. On its summit is the famous circular encampment, consisting of a formidable double trench, enclosing a rampart of about three furlongs in extent. The fortification is supposed to have been of British origin, and there are numerous traces of both Celtic and Roman occupation in the neighbourhood. A preliminary survey has been made, and it is expected that Colonel Lane Fox will prepare a paper on the subject for the next meeting of the Sussex Archæological Association.

Manufactured Antiquities.—At the Central Criminal Court, on the 27th ult., Edward Brown pleaded guilty to an indictment which charged him with unlawfully transferring the mark of the Goldsmiths' Company from a silver article to another article composed of base metal. It appeared that the prisoner had got possession of some ancient silver articles, and transferred the marks upon them to articles manufactured so as represent ancient silver articles, but which were composed of base metal. It was stated that there was a sort of mania among a portion of the public to possess antique silver articles, and that the things manipulated in the way above stated were frequently sold at enormous prices; and it appeared that a regular system was going on of manufacturing these spurious articles. Judgment was postponed to the next session.

Compensation.—The case of Hailey and the Metropolitan and St. John's Wood Railway has been tried before Mr. Under-Sheriff Burchell and a special jury, at Red Lion-square. It was one of the first claims arising out of the new line about to be constructed from St. John's Wood to Harrow. The claim was in respect of a newly-built residence, No. 7, Devonshire-villas, Kilburn, near to Edgware-road Station of the North London Railway. Leasehold for a term of 97 years, at a ground-rent of 30*l.* per annum. The amount claimed in respect of the property was 3,000*l.*, and in support thereof Mr. Alfred Baker (the claimant's surveyor), Mr. Hesketh, Mr. Thompson, and others, gave evidence, whilst the company's surveyor (Mr. Harry Jones), supported by Messrs. Walker, Barrett, & Lowe, estimated the compensation at 1,900*l.* The verdict of the jury was for 2,600*l.*

The New Law Courts.—In answer to Mr. Mellor (House of Commons), Lord Henry Lennox said,—The agreement between Mr. Street, the architect of the New Law Courts, and the Office of Works, was made on September 23, 1870. The architect was to receive five per cent. on the amount proposed to be spent; one-third was to be paid on the execution of the contract, another third as soon as one-half of the contract sum was paid to the builders, and the remaining third when the final payment had been made to the builder. With regard to the second part of the question, it was arranged that if any alterations or additions were made to the work entailing an increase in the cost of the whole work, the architect should receive at the rate of five per cent. on that increase.

Liability of Highway Boards.—At the Darlington County Court, on June 22nd, before Mr. E. R. Turner, judge, an action was brought by John Reid, bailiff of the Darlington County-court, against the Darlington District Highway Board, for 30*l.*, for personal injuries. It appeared that on the night of February 24th last the plaintiff was driving in a dog-cart towards Darlington, and on arriving at Dean Bridge, which was under repair, his vehicle was upset by stones on the road. Plaintiff could not attend to his duty for some time from the injuries he had received. The defence was that the Highway Board were not liable, inasmuch as they had let it to a contractor; but his Honour held that as there had been no special contract for watching and lighting, the Board were liable. Verdict for 25*l.*

An Architect called upon to Rebuild Work at His Own Expense.—At a recent meeting of the Holborn Board of Guardians, a letter was read from the Local Government Board, stating that Captain Lockwood, sub-inspector, had visited the City-road workhouse, and found that in the block building occupied by infirm women there were certain structural imperfections which necessitated its demolition and rebuilding, and the Board wished to know what the guardians proposed to do. The building committee reported that they had considered the subject, and requested that the Local Government Board be informed that the defective brickwork referred to in their letter was about to be rebuilt at the expense of the architect.

Death of a Scotch Artist.—The death is announced of Mr. Thomas Gray, a young and promising Scotch artist. For some time deceased had suffered from pulmonary disease, but it was not thought that the end was so near. He was a native of Aberdeen, but had for several years been resident in London. In his youthful days, while yet in the north, he gave his attention to painting, and found an able instructor in his uncle, Mr. James Cassie, A.R.A. Amongst a large circle of his brethren in the metropolis he was well known, and, taking great interest in the formation of the Hogarth Club, he was appointed its secretary in 1869, an office which he held till the day of his death.

Artisans' Dwellings Act in Birmingham. The order of the Local Government Board, affirming the street improvement scheme proposed by the Corporation of Birmingham, has been issued, and incorporated in a Government Bill which has been introduced in the House of Lords. After reciting in full the scheme and the estimates attached thereto, the order sets out the subsequent proceedings for publication, service of notice, &c., and authorises the execution of the scheme, with the sanction of Parliament, subject to certain conditions and modifications.

A Turf Advertisement.—The proprietors of the *Glasgow News* have done a big thing in advertising. The slope of the hills behind Ardenlee has been cut with letters each 40 ft. long and 6 ft. thick. The length of the advertisement is 323 ft., it covers an area of 14,858 ft., and is 1,485 times the size of a page of the *News*. The borders of the letters are sown with sweet allysium—a white flower; the centre is set with dwarf beet, a dark purple; and on each side of the latter is a row of light purple candy-tuft. Passengers on board the ocean-going steamers can read this horticultural announcement nine miles off.

The Sanitary Condition of Rome.—Mr. Arthur Arnold, taking part in a discussion in the *Times* on the sanitary condition of Rome, says that the reason why the poor of Rome are comparatively healthy, is because they have not their houses so constructed as to become charged, especially at night, with the noxious gases of cesspools; it is peculiar to the rich to domicile poison in this way, and the requisite machinery is an invariable feature of the Anglo-Roman hotel.

Rendle's Patent System of Glazing.—A number of engineers and architects interested in the construction of railway roofs met together at the Paddington Station, on Tuesday last, to examine the ridge-and-furrow roofs (glass) put up for the Great Western Railway Company, on Mr. Rendle's new system. They are very light and agreeable in appearance. The system has been so successful, that the patentee has received instructions from the company to cover the stations at Cardiff, Swansea, Neath, Bath, Plymouth, and Sandon.

The National Byron Memorial.—At a meeting of the National Byron Memorial Committee, on the 1st inst., it was determined that the statue of Lord Byron should be in bronze, and that the pedestal be constructed out of the marble offered to the committee by the Greek Government. Mr. Fitzwilliam Dick made the offer of 1,000 guineas towards the construction of a classic canopy, provided other persons interested in the monument would contribute towards that object. The statue will ultimately be erected in the Green Park, opposite to the house wherein Byron wrote "The Siege of Corinth."

Strike even at Saltaire.—A deputation having waited upon Sir T. Salt, Sons, & Co., spinners and manufacturers, at Saltaire, with a view to endeavour to arrange some terms of compromise, the firm offered to make slight modifications in the proposed reduction of 10 per cent., and to open their mills on Monday morning to all such workpeople as chose to return to work on these terms. The result was communicated to two large open-air meetings of the locked-out workpeople on Saturday, and it was unanimously resolved to remain out until the late rates of payment are conceded. The differences have since been arranged.

A Tribute to Bunyan.—A short time ago the Duke of Bedford presented to the town of Bedford a statue of John Bunyan, which was inaugurated a few months since with considerable ceremony by Dean Stanley. The duke has just added to his gift another memento of the "dreamer" by presenting to Bunyan Chapel, in Mill-street, Bedford (or rather, as the building is somewhat oddly called, "Bunyan Meeting"), a pair of bronze doors of artistic design, and illustrative of ten scenes from the "Pilgrim's Progress." The doors have been executed from the designs of Mr. Frederick Thrupp.

Restoration of a Scotch Mansion.—The mansion-house of Lincluden, the residence of Major Young, which was almost totally destroyed by fire about a year ago, is now being restored. The mansion was built in the Tudor style, and its situation and surroundings are of the most picturesque description. The wish of the proprietor was to maintain, as far as possible, the original design of the mansion, and plans were prepared by Mr. Bryce, architect, Edinburgh, for having this carried out, and the building restored to what it was prior to the fire. The contractor is Mr. J. Halliday, Dumfries.

Ely Cathedral.—A meeting has been held at Cambridge in furtherance of the completion of the exterior of the octagon of Ely Cathedral. The bishop of the diocese presided. It was resolved to accept the plans as submitted by Sir G. G. Scott, and Mr. Wood's tender as approved, at a cost not exceeding 2,965*l.* The fund contributed already amounts to 2,500*l.*, and 500*l.* more is needed. The work will take three years, and will be commenced forthwith.

TENDERS

For erecting new premises in Oxford-street and Old Cavendish-street, for Mr. Thomas Brandon. Messrs. John Giles & Gough, architects. Quantities by Mr. C. H. Goode:—

Hill, Higgs, & Hill	£24,4[illegible]0 0 0
Colls & Sons	21,577 0 0
Kirk & Randall	21,100 0 0
Thorn & Co.	20,350 0 0
Nightingale	19,835 0 0
Sheffield	19,727 0 0

For laying out a portion of airing-courts at Kent County Lunatic Asylum, Chartham, near Canterbury, for the Justices of the Peace for the county of Kent. Messrs. John Giles & Gough, architects. Quantities supplied:—

Nicholson (accepted)	£2,675 0 0

For sundry painting works, terrace walls, and additional stabling at Southwood Hall, Highgate, for Mr. W. Jardine. Messrs. John Giles & Gough, architect. Quantities supplied:—

Hook & Oldrey (accepted)	£1,040 0 0

For rebuilding premises, 107, High-street, Shoreditch, for Mr. G. Stone. Messrs. Berriman & Sons, architects. Quantities by Mr. C. H. Goode:—

Faulkner	£2,423 0 0
Croaker Brothers	2,288 0 0
Tully	2,189 0 0
Shapley	2,135 0 0
Bangs & Co. (accepted)	1,970 0 0

For rebuilding premises, 108, High-street, Shoreditch, for Mr. Sharman. Messrs. Berriman & Sons, architects, Quantities supplied:—

Faulkner	£1,176 0 0
Croaker Brothers	1,115 0 0
Tully	1,090 0 0
Bangs & Co.	1,054 0 0
Shapley	1,048 0 0

For rebuilding premises, 109, High-street, Shoreditch, for Mr. McCann. Messrs. Berriman & Sons, architects. Quantities supplied:—

Faulkner	£1,252 0 0
Croaker Brothers	1,195 0 0
Tully	1,115 0 0
Shapley	1,090 0 0
Bangs & Co. (accepted)	982 0 0

For the construction of drainage works, Buntingford, Herts, for the Buntingford Rural Sanitary Authority. Messrs. Smith & Austin, engineers. Quantities by Mr. E. H. Horne:—

	Contract No. 1.	Contract No. 2.
Young & Co.	£1,474 0 0	826 10 0
Acock	1,445 0 0	745 0 0
Cowdrey & Sons	1,286 0 0	806 0 0
Bloomfield	1,262 0 0	707 0 0
Potter	1,200 0 0	700 0 0
Gray	1,200 0 0	676 0 0
Botterill & Co.	1,113 0 0	613 0 0
Gibbons (accepted)	1,047 0 0	580 0 0

For the erection of cemetery chapel and curator's lodge, Eckington. Messrs. Rollinson & Son, architects:—

Marriott	£6,231 0 0
Greenwood	4,523 0 0
Stevenson & Fidler	4,322 0 0
Miles (accepted)	4,275 0 0

For the erection of schools, residence, fence-walls, and conveniences, at Ashover, for the Ashover School Board. Messrs. Rollinson & Son, architects:—

Greenwood (whole tender)	£2,771 18 0
Excavator's, Mason's, Slater's, and Plasterer's Departments.	
Hopkinson	£1,644 13 8
Fidler	1,567 0 0
Asker (accepted)	1,527 0 0
Carpenter's, Joiner's, Plumber's, Glazier's, Painter's, and Smith's Departments.	
Davenport	£974 0 0
W. Statham	934 10 0
Mellor	864 0 0
H. Statham (accepted)	730 0 0

For the erection of a villa residence at Gladstone-road, for Mr. J. Parkin. Messrs. Rollinson & Son, architects:—

Tutin	£1,879 9 0
Wright & Madin	1,775 9 0
Slim	1,769 0 0
Saul	1,732 0 0
Forrest	1,706 0 0
Greenwood	1,691 0 0
Maw & Madin (accepted)	1,500 0 0
Hoole & Handby	1,465 0 0

For new warehouse, corner of Southwark Bridge-road and Sumner-street, Southwark, for Messrs. Riddle & Couchman. Messrs. Osborne & Russell, architects. Quantities supplied:—

Chessum	£10,200 0 0
Wood Brothers	9,483 0 0
Colls & Sons	9,163 0 0
Greenwood	8,775 0 0
Tarrant	8,100 0 0
Sabey & Son	7,999 0 0
Downs & Co. (accepted)	7,950 0 0

For alterations to 109, Aldersgate-street. Mr. Broadhurst, architect:—

Crabb (accepted)	£1,630 0 0

For sewers, &c., in connexion with the south-west portion of the Wilson estate, Hampstead. Messrs. Farebrother, Ellis, Clark, & E. and C. Lowe, surveyors:—

Mowlem, Burt, & Co.	£13,470 0 0
Nowell & Robson	11,314 0 0
W. & C. Watts	11,172 0 0
Crockett	10,973 0 0
Killingback (accepted)	10,750 0 0

For Hotwell Schools, Bristol. Messrs. Hay & Oliver, architects. Quantities supplied:—

Veals	£3,050 0 0
Davis & Son	2,990 0 0
Estabrook	2,948 0 0
Forse & Ashley	2,920 0 0
Brock & Bruce	2,880 0 0
Pugsby	2,816 0 0
Lewis & Edbrooke	2,815 0 0
Hatherly	2,799 0 0
Cowlin	2,793 0 0
Humphreys	2,790 0 0
Wilkins & Son	2,790 0 0
Hill	2,640 0 0
Stephens & Bastow (accepted)	2,586 0 0

For the erection of a small mansion, at Maidenhead, Berks, for Mr. R. Wilson. Mr. Fred. King, architect:—

Jones	£3,596 0 0
Walker	3,376 0 0
Sutton	3,152 0 0
Croxford & Co.	2,999 0 0
Unwin	2,974 0 0
Dover & Co. (accepted)	2,961 0 0

For six pairs of villa residences, at Shortlands, Kent, for Mr. R. Dixon. Mr. W. Bridge, architect:—

Dedman	£10,877 0 0
Broadbent	10,829 0 0
Walker	10,692 0 0
Unwin	10,429 0 0
Croxford & Co.	10,111 0 0
Dover & Co. (accepted)	9,999 0 0

For the erection of a villa residence, Woodside Park estate, Finchley. Messrs. Spalding & Knight, architects. Quantities by Mr. G. Fleetwood:—

Miskin	£2,610 0 0
Temple & Foster	2,343 0 0
Boyce	2,291 0 0
Plowman	2,235 0 0
Stephenson	2,243 0 0
Southcott	2,217 0 0
Aitchison & Walker	2,197 0 0
Donne	2,175 0 0
Small & Taylor	2,087 0 0
Jopling & Co. (accepted)	1,979 0 0

For building warehouses and stables in Hawley-road West, pulling down and rebuilding premises in rear of 220, High-street, Camden-town, for Messrs. Ward & Rawley:—

Gould & Brand (accepted)	£908 0 0

For new hall at the Royal Masonic Institution for Girls, Clapham Junction. Mr. T. Massa, architect. Quantities supplied by Mr. W. Barret:—

Waldram & Co.	£8,740 0 0
Colls & Son	8,537 0 0
Oliver	8,350 0 0
Pritchard	7,888 0 0
Fish	7,830 0 0
Brass	7,677 0 0
Kirk & Randall	7,584 0 0
Smale	7,017 0 0

For skating-rink and clubhouse in Langham-place, Regent-street. Messrs. Archer & Green, architects. Quantities supplied by Messrs. Argent & Woodward:—

Langmire & Burge	£24,400 0 0
Waldram & Co.	23,870 0 0
Chappell	23,408 0 0
Perry & Co.	21,700 0 0

For additions to No. 9, the Grove, Clapham-road. Mr. G. Legg, architect:—

Kent	£1,415 0 0
Chessum	1,376 0 0
Sweeting	1,245 0 0
Rider & Son	1,204 0 0
Shurmur	1,152 0 0

For rebuilding No. 1, Talbot-court, for Sir William Mitchell. Mr. G. Legg, architect:—

Conder	£3,647 0 0
Ashby & Horner	3,570 0 0
Little	3,497 0 0
Shurmur	3,440 0 0
Chessum	3,277 0 0

For Hammersmith Fire Brigade Station, for the Metropolitan Board of Works. Quantities by Mr. T. Nixon:—

Wood	£4,683 0 0
Chamberlain	4,336 0 0
Williams	4,321 0 0
Stimpson	4,299 0 0
Greenwood	4,289 0 0
Morter	4,200 0 0
Adamson	4,195 0 0
Shurmur	4,195 0 0
Hook & Oldrey	4,120 0 0

For alterations to the Cheshunt Almshouses, for the trustees. Mr. T. J. Hill, architect:—

Bentley	£347 0 0
Archer	343 0 0
Saunders	339 0 0

For Baptist Chapel, Wood-green. Mr. B. Fletcher, architect:—

McCowan (accepted)	£2,045 0 0
Vincent Brothers	1,975 0 0

For stabling and conservatory, Cavendish-road. Mr. B. Fletcher, architect:—

Butcher	£377 19 6
Densham & Sons	275 9 0

For alterations, No. 100, London-wall, E.C. Mr. B. Fletcher, architect:—

Dunt	£305 0 0
Weekes & Sons	285 0 0

For villa residence at Sydenham. Mr. B. Fletcher, architect. Quantities by Mr. E. C. Gleed:—

Wells	£1,430 0 0
Shapley	1,195 0 0
Watson & Dennett	1,030 0 0
Brevitor	987 0 0

For warehouse proposed to be erected at Cloth Fair. Mr. J. Collier, architect:—

Mark	£1,845 0 0
Coleman	1,808 0 0
Lawrence	1,799 0 0
Scrivener & White	1,789 0 0
Crabb	1,795 0 0
Newman & Mann	1,756 0 0
Hart	1,597 0 0
Morland & Nixon	1,597 0 0
Aitchison & Walker	1,533 0 0
Stevenson	1,495 0 0

TO CORRESPONDENTS.

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